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CANCER:

Fallacy, Theory and Fact

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*With very numerous statistical Diagrams and Tables;
also Plates and Photographs.*

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Dedication.

To my noble, heroic Wife,
—“faithful unto death,”—
this work, fruit of her
“Faith, Hope and Love,”
is gratefully dedicated.

PREFACE

From the present work every word has been banished that might savour of personal grievance : this is due to the memory of the sweet woman to whom it is dedicated. But the time is come when an earnest appeal must be made to the *honour* of the medical profession throughout the world to consider this question of cancer without prejudice, at whatever cost it may be to the immediate financial interests of the surgeon.

If the figures which I publish are substantially correct, is it possible to maintain that operation can be a rational treatment of cancer or of tumours presumed in a pre-cancerous stage? The editor of a leading medical journal recently refused to publish a statistical study submitted to him, alleging that my figures were sure to be challenged. But this is what I have striven for these many years! When my first pamphlet on cancer in Switzerland was published in September, 1915, a copy was immediately sent to the Chief of the Département of the Interior at Berne begging that he would have the figures controlled officially, on the ground that Switzerland holds the world-record for high mortality from this disease. In May, 1916, I petitioned the President of the Swiss Confederation to nominate a Commission of Swiss intellectuals (men and women) to examine the facts and figures of cancer-mortality and its causes in an impartial and judicial spirit. At every stage of this long controversy my cry has been, "Light, more light!"

What a commentary on the mentality of contemporary Medicine is the fact that the work of Dr. Louis Guillaume, for many years Director of the Swiss Federal Statistical Bureau, appears still utterly unappreciated, although probably posterity will class him amongst the greatest benefactors of our race. My gratitude to him and to his distinguished successor, Dr. Ney, as well as to the medical expert of the Bureau, Dr. Robert Vogt, is very deep and very real. I am also much indebted to Dr. Steiner, to Dr. Wyler, and to Herr Richard and Fräulein Peterman.

Dr. Guillaume was in the earlier years of our acquaintance sceptical as to the soundness of my views, but my pamphlet published in 1915, "Cancer in Switzerland: the Logic of Facts," "converted" him to my way of thinking, in regard to the fallacy of operation. Three years ago, in returning to me the MSS. of a lecture which I had submitted to him before delivery, he wrote me as follows:—

"I return your paper, which has interested me intensely. There is enough in it to give such a lecture as should convince any audience free from prejudice. In the question which you defend, one should remember, as you say, some of the experiences with regard to bleeding as formerly practised, experiences which I can remember from the time I commenced the practice of medicine. In such consultations as I had with old practitioners, I was asked, before all, if I had bled the patient. When I said, No, it was regarded as a reproach that I had not thought of it. Bleeding is now completely abandoned, and nobody speaks any more of it. It will be the same thing with operative methods in the treatment of cancerous affections."

It will probably be objected that my statistics are not the latest available at the moment of publication. My answer is as follows:—The publication of certain official reports has been delayed for years in an incomprehensible fashion, so that it was impossible to wait indefinitely for their issue, seeing that this opuscle represents years of strenuous work. And even if this were not so, the war on the one hand and the progressive zeal for operation on the other, have introduced entirely new factors into the complexity of the cancer question. I believe that the conscientious and thoughtful reader will agree with me that the statistics discussed are those best calculated to *elucidate the truth* in respect of the problems of cancer. The private statistics of this or that operator I regard as irrelevant, an opinion in which I do not stand alone (see page 35).

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May 1st, 1923.

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ERRATA.

Page 4, line 30, for *two*, read *three*.

Page 41, Table 5, for 1913-18, read 1916-18.

Page 43, Table 9, for *Male*, read *Males*.

Page 75, line 14, for *p. 23 et seq.*, read *p. 236*.

Page 78, line 10, for *thiosamine*, read *thiosinamine*.

Page 120, line 29, for *hereditary*, read *heredity*.

Page 129, line 8, for *in*, read *to*.

Page 137, line 3, for *excepting*, read *except*.

Page 151, Case 13, for *scirrhus*, read *scirrhous*.

C A N C E R :

Fallacy, Theory and Fact

INTRODUCTION.

Lord Atholstan and Sir W. Veno have offered prizes for a cure of cancer under conditions which suggest that they are but very imperfectly acquainted with its problems. I venture to think, indeed, that such conditions are so seriously misleading as to constitute a grave injustice to sufferers from cancer, because they suggest four fallacies:—

(1) That there is every reason to suppose that, sooner or later, cancer-research (as the term is generally understood) will be able to solve the essential problems of cancer, its causation, prevention, and cure.

(2) That, in the meanwhile, operation is a rational and effective treatment of cancer.

(3) That cancer, up to the present, has not been curable without operation.

(4) That there can ever be “a cure for cancer”—*a unique specific remedy*—irrespective of its causes.

The late Mr. Edmund Owen, in the Bradshaw Lecture delivered in 1906 before the Royal College of Surgeons of England, said that the discovery of a cure for cancer “*will be as the lightning under heaven,*”⁽¹⁾ thus quoting a passage applied to *the end of the world*. My argument is that the cure of cancer is possible *to-day*, if one is willing to accept a rational theory of its causation, and to base thereon rational methods of treatment.

If the cases that I adduce as proof of the curability of cancer are not very numerous, it must be remembered that I have met, both here and in Switzerland, with incredible opposi-

(1) “Cancer—its Treatment by Modern Methods.”—“*British Medical Journal*.” 1906. Vol. II. p. 1694.

tion, the sole justification of which is to be found in my opponents' acceptance of the dogma that the non-operative treatment of an operable tumour is "criminal." As explained in the text, I might have swelled the number of cases if I had mentioned successes published elsewhere, in which treatment had been adopted on lines that I have now discarded. It would be interesting to know whether the Imperial Research Fund, after something like twenty years of organised work, the expenditure of tens of thousands of pounds, and the sacrifice of hundreds of thousands of highly organised animals ranging from mice to horses, can show better results, meagre though mine be. Such as they are, they have been arrived at without causing pain to a single sentient creature.

The relation of cancer-research to surgery is a very interesting one. Surgery admits certain limitations and cordially supports cancer-research, which, in turn, emphatically recommends operation as the only reliable treatment of cancer, until such time as its own work shall have borne the fruit always so confidently expected in the near future—provided sufficient funds be subscribed by the public. If, therefore, there is reason to believe that cancer-research can *never* solve the problems of cancer, it is clear that surgery will continue to hold the field—whatever its limitations—until the Greek Kalends, that is to say, for ever.

Many years ago, I invited Dr. Bashford, the then Superintendent of the Imperial Cancer Research Fund, who had been lecturing on the wonders of cancer-research before a lay-audience, to a public debate on the question whether such research was furthering or obstructing the progress of cancer-cure; but repeated efforts to secure the desired discussion remained fruitless. With increasing knowledge my convictions have been strengthened, and I shall endeavour to explain in perfectly logical fashion why I believe that cancer-research can NEVER solve the essential problems of cancer, its causation, prevention, and cure.

Mr. Stephen Paget, Vice-Chairman of the Research Defence Society, in the *Sunday Chronicle* (30th June, 1922), quoted St. Augustine as saying: "The judgment of the whole world is right." One must not forget, however, that everyone believed—at no very distant period of time—that bleeding was the universal panacea (preventive and remedial) for all human ills. Harmsworth's *Encyclopædia* (article "Venesection") tells us that "in the early part of the 19th century healthy men, women and children were bled as a matter of course, three or four times yearly, while in disease its applica-

tion was almost universal." I have quoted an extract from a letter received from a venerable and distinguished doctor, *a living link with that past*. No need to go back to St. Augustine! The misfortune is that the man who does not believe what everyone believes must suffer as a "crank."

Dr. John Brown had the temerity to write a work, in which he suggested that discrimination should be used in bleeding, and a distinction made between full-blooded individuals and feeble, anæmic or exhausted patients. Hereupon the medical authorities of the enlightened City of Edinburgh publicly ostracised this dangerous revolutionary, who died seven years later in London in great poverty.

The present writer was about ten years of age—no question of St. Augustine's time!—when Dr. Ignatius Semmelweiss died from blood poisoning in a lunatic asylum, his mind having given way under the persecution to which he had been subjected by the medical authorities of his time. In May, 1847, when the mortality in the Lying-in Hospital of Vienna stood at 12 per cent., he insisted that the students engaged in anatomical studies should disinfect their hands before examining expectant mothers, a precaution which, within six months, reduced the mortality to 3 per cent.

The persecution to which Semmelweiss was exposed may well seem incredible to the medical practitioner of to-day. What everyone believed 50 years ago is not what everyone believes to-day! Excerpts from the writings of two celebrated teachers of that day may make the position a little more intelligible:—

(1) "I prefer to attribute them [cases of child-bed fever] to accident or Providence, of which I can form a conception, rather than to a contagion, of which I cannot form any clear idea, at least, as to this particular malady."—Prof. Meigs, Jefferson Medical College, Philadelphia.

(2) "The result of the whole discussion will, I trust, serve, not only to exalt your views of the value and dignity of the profession, but also to divest your minds of the overpowering dread that you can ever become, especially to women under the extremely interesting circumstances of gestation and parturition, the ministers of evil; that you ever convey in any possible manner, a horrible virus so destructive in its effects, and so mysterious in its operations as that attributed to Puerperal Fever."—Prof. Hodge, University of Pennsylvania. Both were quoted by Dr. O. W. Holmes in "The Contagiousness of Puerperal Fever."

It is surely not difficult to understand what a "crank"

Semmelweiss must have appeared to these two illustrious professors and their pupils; but it is interesting to note that the most approved antiseptics in the late war were but modifications of that introduced as a disinfectant by Semmelweiss, both depending on hypochlorous acid gas.

This colossal revolution in "what everyone believed" occurred in less than a quarter of a century.

When Lister returned to London from Glasgow, he was denounced as a "charlatan" for having introduced antiseptic precautions into surgical practice. It is the Germans that we have to thank for adopting antiseptics in the war of 1870-71, and thus popularising them.

In 1919 there died from malignant disease in Great Britain and Ireland more than 50,000 sufferers, the annual mortality from cancer throughout the civilised world being reckoned at ten times that figure. If one allows but two years as the average duration of a patient's life, when once known to be attacked by cancer, there must be within these isles, at the present moment, at least 100,000 sufferers; in the civilised world, one million. Of this number, in my judgment, from 20 to 30 per cent. are the victims of the false theories and erroneous practice of modern surgery; that is to say, these men and women would not be suffering from cancer to-day, they would not be doomed to a lingering death, not less horrible, regarded from the standpoint of moral suffering, than from its physical torture, if the theory and practice of modern surgery were more in accordance with the "logic of facts," and not prejudiced by financial interests and priestly pretensions.

There is something inexpressibly sad in what a Swiss doctor said to me not quite two years ago,—why he maintained an incognito I do not know:—"Formerly, the profession of medicine was a sacred ministry." (*Autrefois la profession médicale était un sacerdoce.*) Let the reader be assured that the man who regarded his profession in this light, but now fears that "the glory is departed," has nothing to learn from Micah, who, in the bitterness of his soul, cried out: "Ye have taken away my gods . . . and what have I more?"

There is *prima facie* evidence that the author's point of view merits attention, because "conscience" has not been on the same side as personal interest.

In 1889, Sir Spencer Wells, in giving me a testimonial to the effect that he considered me "highly qualified for the appointment of Obstetric Physician to any hospital," mentioned, in particular, skill and success in two operations. It

was one of these specified operations that first aroused in my mind the dread that surgical intervention might result in cancer.

An appeal has recently been published in the lay press for one million pounds sterling annually for cancer research:—
“*The present urgent need is for many more workers, with salaries appropriate to the extreme importance of such national service.*” For many years past, however, my work on cancer has been prosecuted, not only without emolument, but at the cost of all that men prize the most. If the principles for which I contend entail financial loss on the surgeon, their acceptance should greatly benefit the general practitioner to the incalculable advantage of the sufferer from cancer. Under any circumstances, no one can say with truth that I preach that which I have not practised.

This question of the operation of cancer and of tumours presumed in a pre-cancerous stage is its foundation-problem, because, so long as it is taught that the only rational treatment of an operable tumour is by operation, then two consequences must inevitably result:—

(1) The medical profession will not interest itself in the previous medical history of the cancerous patient. “Here is a tumour,” says the surgeon, “which is either a cancer or may become such; let us remove it without the loss of a day by an operation as extensive as the anatomical conditions permit.”

(2) The surgeon is mentally incapacitated from realising the cure of an operable cancer by any other method than operation. *The cancer which has been cured without operation was not a cancer.* This dogma is stated with perfect frankness:—“*Le cancer qui passe, n'était pas un cancer.*” Hence arises the curiously paradoxical position that it is not the *permanent* cure of patients who had been diagnosed as suffering from cancer that constitutes convincing proof of the curability of the disease apart from operation—the surgeon can more readily believe that he made an error of diagnosis—but the *death from cancer* of patients who had been *temporarily* cured but had subsequently from force of circumstances—or from their own indiscretion—suffered a fatal relapse.

This work will have been written in vain for every reader who, after its conscientious perusal, remains unconvinced that cancer is a perfectly curable disease without operation.

The position is a very simple one from the standpoint of logic. I maintain two propositions:—

(1) That operation is an irrational treatment for cancer

and for tumours presumed in a pre-cancerous stage; that operative zeal is responsible for the sacrifice annually of hundreds of thousands of men and women.

(2) That cancer is curable without operation.

In support of the first proposition I submit certain figures which are either substantially exact or inexact. How can philanthropists, eager to rescue humanity from the curse of cancer, better prepare the way than by having this question settled by submitting my figures to some competent independent authority? Of course, it would not be enough to say that the figures are not exact, it would be necessary to state the exact figures, so that I in turn might control the results. No private statistics can detract from the force of national statistics, seeing that quite apart from the co-efficient of personal honesty and freedom from *parti-pris* there is that of *chance* as understood by the mathematicians in the Theory of Probabilities.

With regard to the curability of cancer without operation, that is merely a question of practical experiment on an adequate scale under the observation of critical experts.

CANCER FALLACIES

CANCER RESEARCH.

The term "cancer-research" is generally used as synonymous with the observation (experimental and otherwise) of animals, with a view to solve the problems of cancer; that is to say, its causation, prevention and cure. The fact that a member of the medical profession has appealed to the public for an annual endowment of one million pounds sterling for cancer-research workers is a sufficient indication of the fascination exercised by this subject alike on the professional and the public mind, a fascination which is all the more remarkable when one thinks of the paucity of the results attained by some twenty years of organised activity, entailing the expenditure of millions of pounds and the sacrifice of millions of animals.

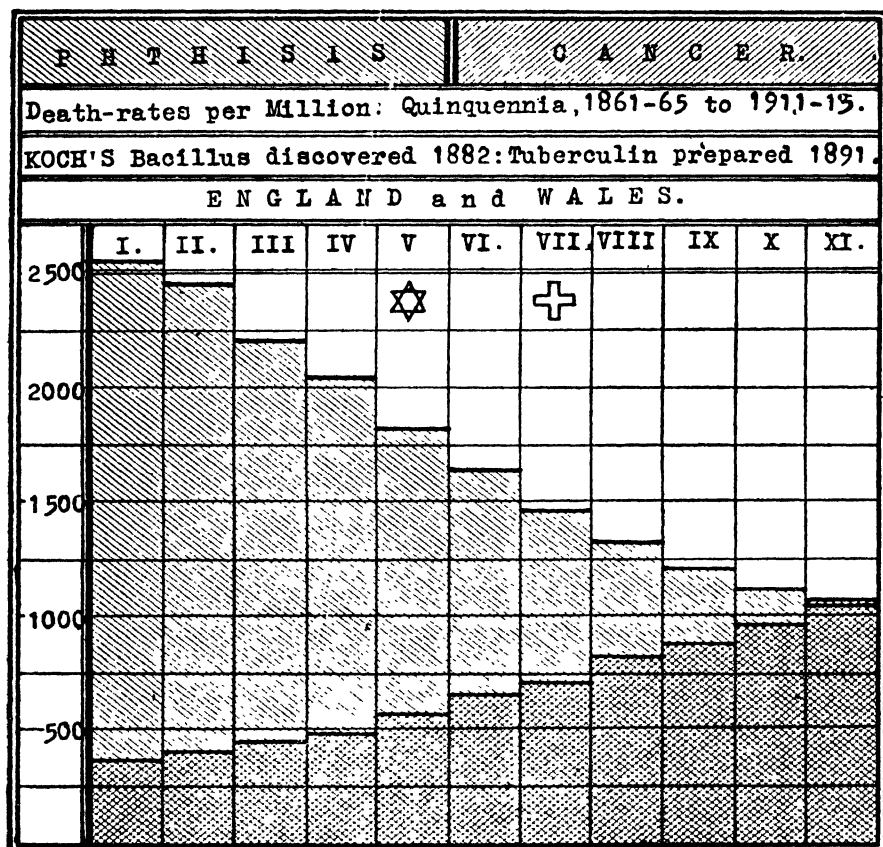
In England and Wales, in 1861-65, the death-rate from phthisis was nearly *seven times* as serious as that due to cancer. Since that period, however, whilst the mortality from phthisis has steadily diminished, that from cancer has rapidly increased until, a few years back, more deaths occurred in England and Wales from cancer than from consumption of the lungs. Although the war, with its entailed privations, occasioned a recrudescence of phthisical mortality, this is now once more declining.

Why this difference in the progression of two important causes of mortality? Is not the most reasonable explanation to be found in the suggestion that consumption is better understood than cancer?

It may possibly be thought that the diminution of the mortality ascribed to phthisis is to be credited to the discovery by Professor KOCH, in 1882, of the tubercle bacillus and the subsequent production (1891) of a tuberculin. But such is not the case, as may be learnt by depicting the death-rates in periods of five years graphically in columns; it will be seen at a glance that the improvement before 1880 was more striking than later. In spite of this fact, however, since Koch's discovery, innumerable workers in all civilised lands have been seeking a germ-organism introduced from without, or even arising by spontaneous generation within, which might account for the ravages of cancer. None, however, has been

found to the satisfaction of any authority other than its alleged discoverer.

Diagram 1.



‘ In order to understand the diagrams which will be a special feature of this work, it is necessary to note that the scale is indicated, either by figures placed at the side, or by a number, at the top, which then represents the value of each fraction in a vertical direction. In the diagram presented above, instead of the value, 2,500, placed at the side, the number 250 in the topmost square of the diagram would have shown that each of the ten vertical divisions represented 250 deaths annually per million of the population living. When a contrast is in view, this is shewn by corresponding shading, the superposition of the two diagrams occasioning a crossed appearance.

About the beginning of the present century, the observation was made that mice occasionally present tumours bearing

some resemblance to cancer, and that fragments from such tumours were transplantable from one mouse to another, rapid growth of the transplanted fragment subsequently occurring in the new host, provided that the conditions were favourable.

In order to ascertain whether cancer-research holds out reasonable hope of effecting in the future results more commensurate with the expenditure of time, money and animal life than can be shown from past experience, it is necessary to remember the conditions governing cancer in mankind, the malignancy of which is evidenced by the tendency to local extensions (popularly described as the roots of the cancer), the production of secondary *foci* of disease at a distance (the so-called metastases), and the induction of a state of malnutrition or cachexia, which makes for a fatal termination.

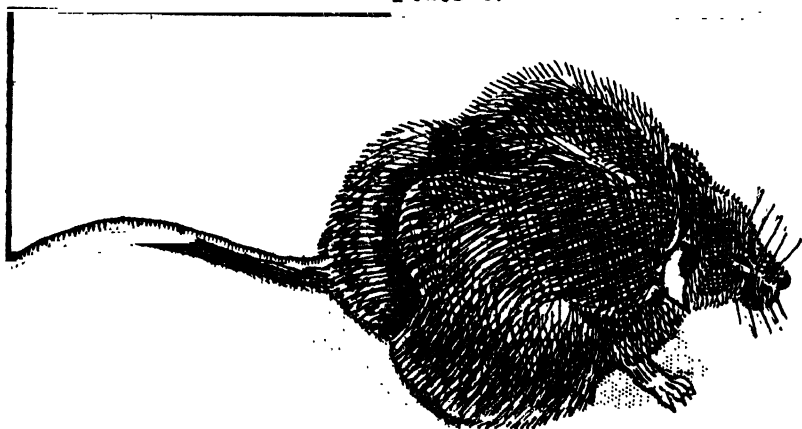
It is admitted by all that the cell—the structural unit of all organised tissues—is the *agent* of malignancy, for the potential development of which, however, a certain constitutional condition or “*environment*,” is necessary; in the absence of this qualifying environment, the cancer cell may remain quiescent for many years.

Let us now compare, with the above, the known facts concerning cancer in mice.

The Cancerous Tumours of Mice.

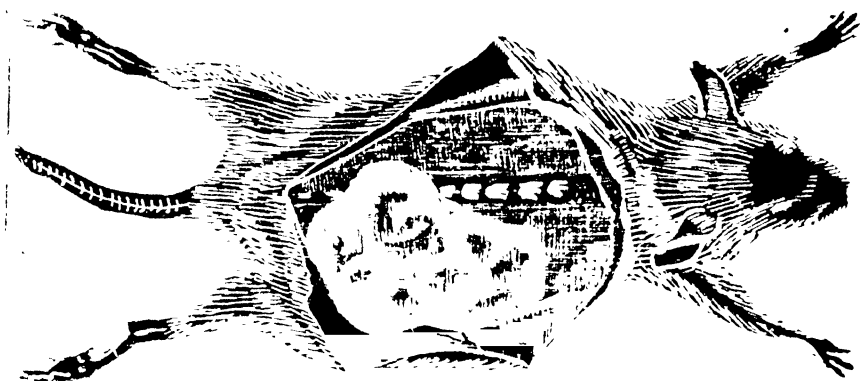
It would be inaccurate to say that mice *suffer from cancer*, seeing that such tumours may grow, until there seems to be as much tumour as mouse, without any impairment of the general health and comfort of the subject, a condition which certainly finds no parallel in human cancer. Moreover, such tumours

Plate 1.



originate, it is said, in an organ or tissue concerned in hibernation. The cancers *frequently* disappear spontaneously; they do not present the extensions popularly described as "roots"; nor do they produce—*unless operated*—the secondary cancers

Plate 2.



known as metastases, which constitute in the human subject the surest proof of malignancy. And what is very remarkable is the fact that the involvement of vital organs by cancerous deposits (as the sequel of operation) does not produce that deterioration of the general health known under the term "cachexia."

The Cells of Mouse-Cancer.

As already said, the unit of a cancer (as of normal tissues) is the "cell," which stands in the same relation to organic structures as the brick does to the building. With regard to the actual nature of the cells of mouse-cancer, there has been much controversy and much effusion of ink, but the one essential point to remember is that such cells—it is alleged—may undergo a *transformation* from one kind of malignant growth to another, from carcinoma to sarcoma, a metamorphosis which has never yet been observed in mankind, and might be supposed impossible in view of the different embryonic origins.

The Constitutional "Environment" of Mouse-Cancer.

In the first place, it should be noted that the transplantation experiments succeed only within the very narrowest limits, a graft from a German mouse being unfruitful in an English mouse, and one from a grey mouse failing to grow in a mouse

of somewhat different colour, so delicate appears to be the dependence of the cancer cell of mice on the qualifying environment.

In the second place, the most important contrast of all is one which suggests that *there is an essential difference in the constitution of mice and men*. Mice and their immediate relations (field-mice and rats) are attacked by disease with almost certainly fatal results after the ingestion of a certain virus—the Danyz virus—which is absolutely innocuous to all other animals, including man.

To recapitulate: In comparing the cancers of mice and men, one notes that the unit of structure, the cell; the aggregate of cells, the tumour; the life-history of the tumours and the qualifying environment on which malignancy depends—one and all—present very important (*perhaps essential*) differences.

It had been my wish to avoid in the present work all controversy. With this end in view, in the pages dealing with the teaching of statistics, I had simply indicated the conclusions arrived at, without intimating that they were in direct opposition to the teaching of the then Director of the Imperial Cancer Research Fund, Dr. E. F. Bashford, who concluded his second Scientific Report, 1905 (Part I., "The Statistical Investigation of Cancer"), with the following paragraph:—

"The classification and the study of the numerous data which have been collected from the many different sources supplying the information on which this report has been based, have been carried out conjointly with Dr. J. A. Murray, who shares with me the responsibility for the final observations and the inferences we have drawn from them."

The most startling claim that Research has founded on its mice is the possibility of deciding whether this or that remedy is worth considering in the cure of cancer in mankind. The active principle of the pancreatic gland known as trypsin was found to give useful results in certain cases of cancer, but it was not until an overdose had killed two mice that the medical authorities took its claims into serious consideration. Since that time, however, Professor Wassermann, of Berlin, has discovered a remedy, which, injected into the caudal vein of an affected mouse, leads to the atrophy of its tumour. He admitted at once, however, in order to avoid the raising of false hopes, that it was *without beneficial action on the cancers of mankind*. From these facts I surmised that the fantastic

claims of cancer-research would have been abandoned. Let the reader then judge of my astonishment on perusing Dr. J. A. Murray's article, ⁽¹⁾ the last paragraph of which reads as follows :—

“ The most important result of animal experiment in cancer is seen in the changed attitude it has brought about, quite apart from the acquisition of new knowledge. The fact that ideas on the cause, nature and treatment of cancer can be put to the test of experiment has steadied the whole community, lay and medical, in the face of inordinate claims. There is now, in some sort, a court of appeal, other than the tedious one of uncontrolled experiments on man. The extent to which it is acknowledged as such is at once the measure of advancing knowledge and its recognition.”

I, therefore, propose to remind my reader of some of the decisions of this “ Court of Appeal,” on some of the most vital problems of cancer.

CANCER-RESEARCH AS A COURT OF APPEAL.

It is interesting, as a preliminary, to understand how little sure this Court of Appeal is in regard to what one might think elementary factors.

Dr. G. H. CLOWES, of the New York State Cancer Laboratory, Buffalo, U.S.A., in a communication on the “ Virulence of Carcinoma in Mice ” (*Brit. Med. Jour.*, December 1st, 1906, page 1553), on the basis of experiments on over 7,000 subjects, concluded that :—

(1) “ Primary tumours are only transplanted with great difficulty; after the first generation the yield of tumours gradually increases until a maximum virulence is attained, which subsequently remains fairly constant for a considerable period of time.

(2) “ Increase in virulence of a tumour strain is invariably associated with an increased rate of growth of the individual tumours.

(3) “ The proportion of tumour mice recovering spontaneously in any series is apparently inversely proportional to the virulence and speed of development of the tumours of that series.

(1) “ Results of Animal Experiments on Cancer,” by Dr. J. A. Murray, Director of the Imperial Cancer Research Fund. (*Medical Press*, 5th April, 1922).

(4) "The larger the dimensions actually reached by a tumour, the smaller are the chances that it will recover spontaneously."

Compare with the above the pronouncements of our "Court of Appeal," as published on page 63 of Part II. of the 2nd Scientific Report of the Imperial Cancer Research Fund, which read as follows:—

"It is only rarely that Jensen's tumour diminishes in size spontaneously. Only in one case out of a total of 3,000 tumours of over fourteen days' growth have we observed a marked diminution in size of an undoubted tumour.

"Our experience in this respect is in marked contrast to that of Clowes, who records a spontaneous disappearance of 15 per cent. to 20 per cent. of his tumours of about the size of a pea. Septic processes following or independent of inoculation give rise with great constancy to swellings in the subcutaneous tissues of mice. During the first fourteen days after inoculation, such "tumours" are so obviously a source of fallacy that no reliance can be placed on observations made during this period. These swellings may disappear spontaneously. The necrotic changes in the alveoli which Clowes ascribes to the action of immune serum are normal conditions in Jensen's tumour."

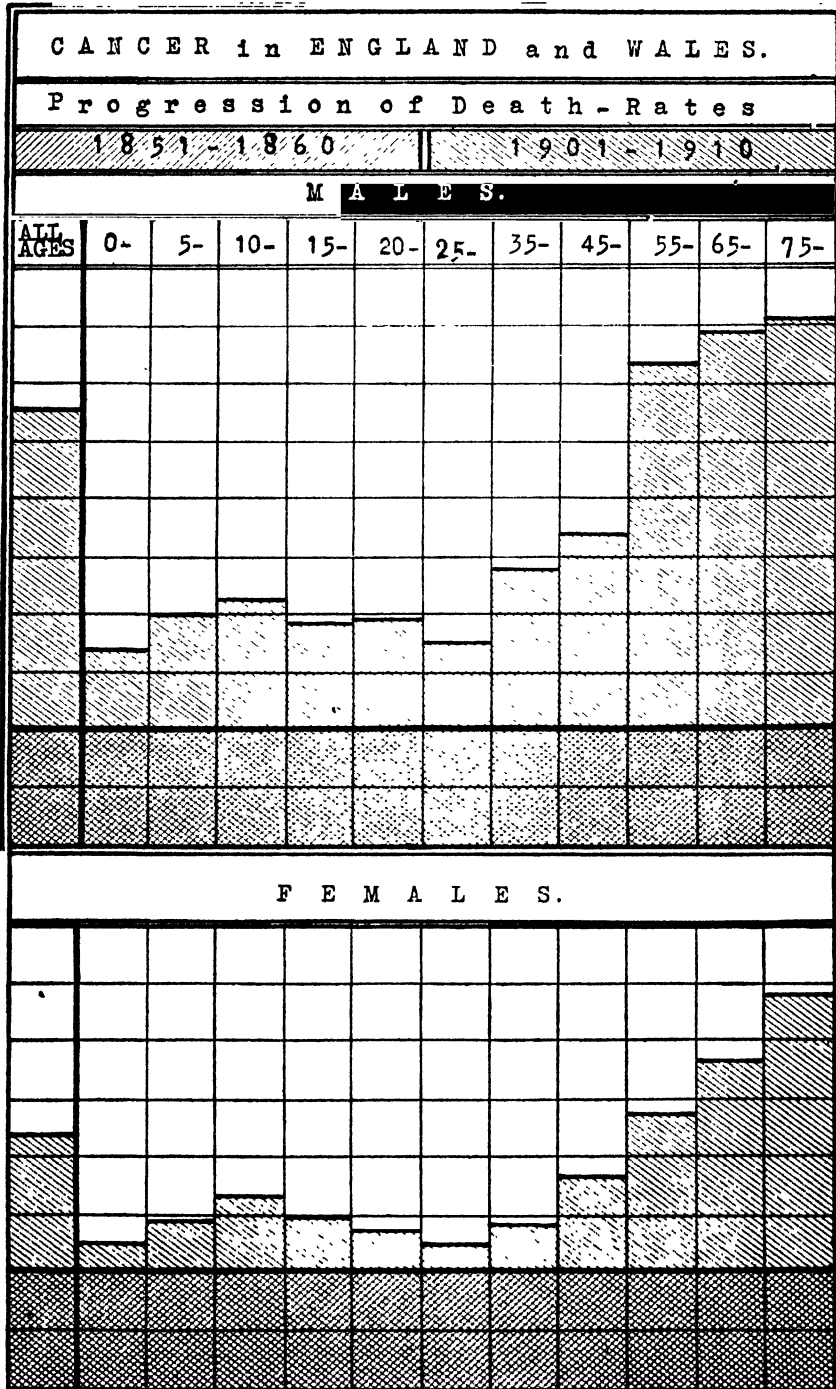
And on the basis of such material, Dr. J. A. MURRAY makes the astounding claim above cited, part of which I venture to emphasize: "*The fact that ideas on the cause, nature and treatment of cancer can be put to the test of experiment has steadied the whole community, lay and medical, in the face of inordinate claims. There is now, in some sort, a court of appeal.*"

It is not without interest to contrast with the foregoing claim what was written in the second Scientific Report, page 7:—

"Hence the problems which require to be explained can all be approached directly by experimental methods, *with the exception of those involved in the origin of cancer*; this is an entirely independent problem, and at present can only be attacked indirectly with the aid of knowledge acquired during the experimental and comparative study of malignant new growths." (The italics are mine.)

One wonders what is the basis of the extended claims now made by cancer-research.

Diagram 2.



(1) The Increase of Cancer.

An actual increase in the death-rate from cancer was not admitted by the authorities of the I.C.R.F.⁽¹⁾ The *apparent* increase was ascribed to improved registration and increased diagnostic facilities, owing to more frequent discovery of internal tumours by way of exploratory operations and post mortem examinations. "There is nothing in the statistical investigations of the Imperial Cancer Research Fund which points to an actual increase in the death-rate from cancer." The apparent increase was, in fact, a matter of congratulation, as evidence of the march of medical science!

If the diagram on page 14 be consulted, it will be seen that the mortality in 1851-1860 for "all ages" and for each age-period is taken as 100. If the increase noted fifty years later was due to increased accuracy of diagnosis and registration, one would expect a line more or less horizontal corresponding with the percentage increment ascribable to these causes, which may be expected to be similar in amount at each period. What we find is that the curve closely corresponds with the natural curve of cancer from 25 years of age upwards, showing that the increased registration of cancer is for the most part due to a *real* increase, dependent on an increase of its causes. This may be ascertained by comparing diagram 2 with diagram 3.

In my opusculé, "Cancer: Operation not THE Cure, but a Cause," I pointed out on page 111:—

"If diagnosis could account for such a curve, it would be necessary to allow that the additions due to increased accuracy of diagnosis in the case of a man of 65 to 75 were twenty times as numerous per cent. as those in a woman of 25 to 35—surely a *reductio ad absurdum*."

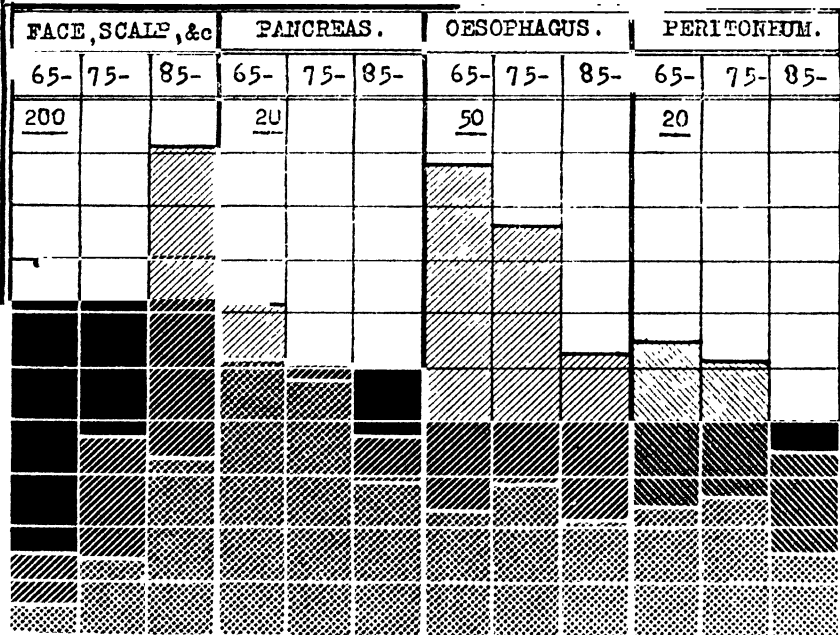
The statement of my opponents naturally tended to allay the anxiety of the public, mine to stimulate enquiry into the nature of the increased causes of cancer mortality, a necessary preliminary for combating those causes.

Sir Henry Morris, Consulting Surgeon of the Cancer Charity of the Middlesex Hospital, is reported in the *Daily Mail* of 5th June, 1922, as saying:—"I am not so sure that there has been an increase of cancer. What I am sure of is that cancer is not present in a good many cases where it is supposed to exist." An extract from the Registrar General's

(1) "I.C.R.F." is a convenient abbreviation for the Imperial Cancer Research Fund when it is necessary to repeat this title frequently.

INFLUENCE of AGE and SEX.

ENGLAND AND WALES 1901-1910.



Report for 1917 will be noticed subsequently, and this, together with the diagrams on page 14, may suffice to satisfy Sir Henry Morris as to the reality of the increase of cancer. I can quite imagine that patients who have submitted themselves to operations, the extent of which would astound our forefathers, will draw but little consolation from the latter clause of Sir Henry's opinions.

(2) Cancer, a Disease of Old Age?

In consequence of the observation that mice of a certain age are more liable to spontaneous "cancers," and in spite of the fact that transplantation experiments succeed better in younger mice, Dr. E. F. Bashford, the then Superintendent of the I.C.R.F. (with whom Dr. J. A. Murray shared the responsibility for the final observations and the inferences drawn therefrom), in Part I. of the 2nd Scientific Report (1905), asserted :—

"The association of cancer with old age is the only factor known to be constantly associated and intimately bound up with the processes for the development of cancer in man and animals."

So convinced were these gentlemen that cancer was a disease of old age, that it was argued that the statistics of mortality in Ireland were defective because they showed a higher age-constitution and a lower cancer death-rate. It was stated :—

"In all probability the more favourable conditions prevailing in England, did they exist in Ireland, would quickly show a cancer death-rate there proportionately higher than in England, in accordance with the higher 'age-constitution' of the Irish population."

To this contention the present writer replied as follows in the pamphlet, "Cancer: a Working Theory for its Prevention and Cure":—

"With this vital and fundamental conclusion of the Superintendent of the Imperial Cancer Research Fund I desire to join issue. Cancer is not a disease of old age, except in the sense that old age is the period of natural degeneration, and the greater span of life has allowed the antecedent degenerations which result in cancer to have a greater chance of maturing. Cancer is a disease of degeneration, and cancer mortality in Ireland is low *because the 'age-constitution' is high*. In other words, those processes of degeneration which tend to shorten the span of life are those which induce malignant tumours; and such pro-

Diagram 4.

INFLUENCE of AGE and SEX.											
"A L L C A U S E S."											
Death-Rates per Million living.											
M A L E S						F E M A L E S					
ALL AGES	0-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-
5000		1000						15,000			

C A N C E R.											
TOTAL FEMALE MORTALITY.						FEMALE NON-SEXUAL ORGANS.					
35-	45-	55-	65-	75-	85-	35-	45-	55-	65-	75-	85-
1000						1000					

cesses of degeneration are less active in Ireland than in England and Wales.

"The statistics of occupation-mortality amply confirm my contention. For example, the age-constitution of clergymen is higher than that of lawyers' clerks, but their cancer mortality is much lower. Similarly, agriculturists with a high age-constitution have a low cancer mortality, and publicans with a low age-constitution a very high death-rate from cancer. And so with other occupations representing millions of individuals."

In dealing with the relation of age to cancer-incidence, the Report pointed out a fact of great importance (without being able, however, to offer any explanation) in the following passage:—

"When the death-rates from cancer in the general population at different age-periods are compared, the death-rate progressively diminishes as younger age-periods come under review . . . it is found that the diminution does not extend uniformly back till birth. On the contrary, a minimum is reached between the fifth and fifteenth years. The mortality among females is also noticeably less than in males. . . . It is the only minimum which that curve shows after birth, and its explanation, when obtained, should tend to render more precise our conceptions of the essential factors which determine the sporadic appearance of malignant new growths." (See Diagram 3, p. 16.)

In my booklet, "Cancer: Operation not THE Cure. but a Cause," after quoting the passage in full (here it is slightly abbreviated), I answered as follows:—

"Why is this? The minimum cancer incidence in both sexes—allowing the time necessary for the fatal issue—occurs at, or about, the time that the *expectancy of life* is the greatest; and the cancer-incidence in females is less than in males, because *the expectation of life is greater*. Yet another proof that old age, as such—which is evidence of greater vitality—is not the real cause of cancer."

As will be pointed out later, this fact might be otherwise expressed by saying that the diseases especially prevalent during the first five years of life, when concentrated on parts injured or weakened by the accidents attendant on birth, may excite in these latter that cellular proliferation which initiates the cancer-cycle. (Diagram 4, p. 18)

This question is absolutely the fundamental one as the key to the understanding of the problems of cancer. It has been dealt with from various points of view in the pamphlet just

Diagram 5.

I N F L U E N C E o f A G E .

ENGLAND and WALES.

Male Cancer Death-Rates, per Million.

[illegible]

Female Cancer Death-Rates, per Million

O V A R Y				U T E R U S				B R E A S T			
55-	65-	75-	85-	55-	65-	75-	85-	55-	65-	75-	85-
<u>10</u>				<u>110</u>				<u>250</u>			

cited, as well as in another pamphlet: "Cancer: Some of its Problems and their Solution." It is to be noted, moreover, that the maximum death-rate from cancer is not in extreme old age, but earlier, a fact which proves that all morbid processes have not the same intensity as exciters of cancer. (Diagram 3.)

.The discrepancy between the views of the I.C.R.F. workers and myself on this question of age in its relation to cancer genesis is so very important that it is well to refer to further observations published in the booklet, "Cancer: Operation not The Cure, but a Cause." From pages 22, 23 and 86, 87, the following quotations are cited:—

"The maximum mortality, per million women living, from malignant disease, in the case of the ovary, the womb and the breast, falls in different decades—that of the ovary in the decade 55 to 65, that of the womb from 65 to 75, and that of the breast in the period of life, 75 years of age and upwards." (Diagram 5, page 20.)

"Similarly, cancer of the brain in both men and women reaches its maximum incidence per million living in the decade 55-65. And it is noteworthy that the maximum mortality per million males for cancer of the alimentary canal is in the decade 65-75 in the case of the pharynx, œsophagus, stomach, pancreas and spleen, whilst in the case of the liver and gall-bladder, the intestines and rectum, the maxima follow later, 75 years of age and upwards. Similarly the pancreas and spleen in women, as in men, provide their maximum mortality in the decade 65-75, whilst that of the pharynx, œsophagus and stomach is postponed to the last period of life."

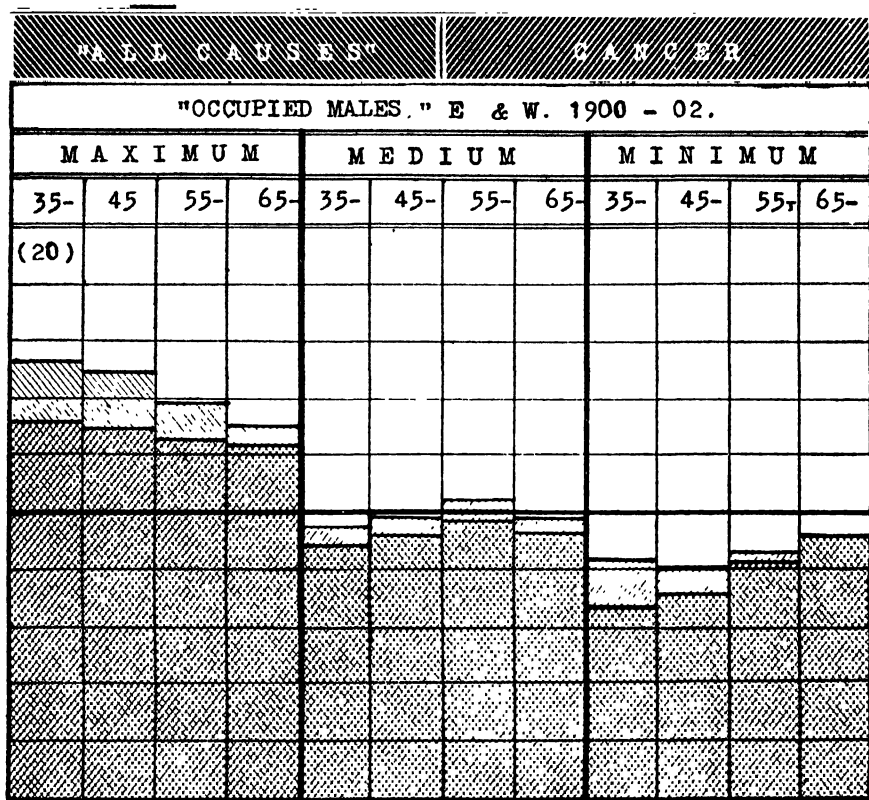
These observations were made on the basis of the Registrar General's Annual Reports, 1901-1904, but they are equally true for the longer period, 1901-1910, as may be judged by the diagrams on pages 16 and 20 (1).

As late as in the Annual Report for 1913 (page lvi), the following remark is made in relation to such facts as those hereinbefore set forth:—

"The age distributions in Table LVI. are very similar to those tabulated in previous reports, the same characteristic differences between the ages at which the chief brunt of mortality falls upon those suffering from disease of the various organs reappearing year after year. Even so small a point as the later maximum of mortality from cancer of

(1) At the earlier date the age period 75-84 was included under the heading "75 and upwards."

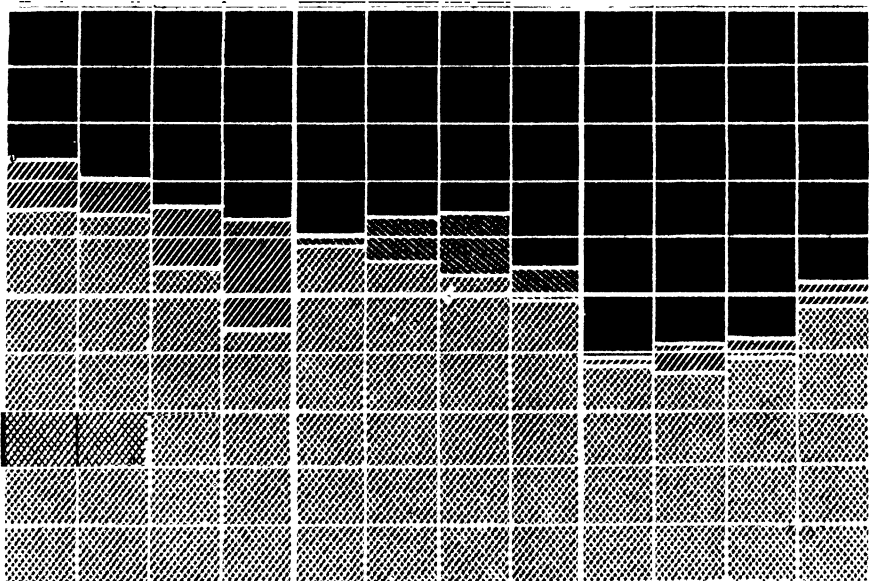
Diagram 6.



L O N D O N

INDUSTRIAL DIS:

AGRICULTURAL DIST



the œsophagus and stomach in the female sex is reproduced year after year. It is evident, therefore, that these peculiarities of age distribution are of significance, though their explanation may not always be apparent at present."

With all due respect, this is "putting the cart before the horse." The observation should read:—"Even so small a point as the earlier maximum of mortality from cancer of the œsophagus and stomach in the male sex is reproduced year after year." For the period 1901-1910, not only cancers of the stomach and œsophagus attain their maximum mortality earlier in the male sex, but also those of the pharynx and throat and tongue. And the reason is not far to seek. The degenerations which make for cancer in these organs are more active in men than in women, thus occasioning not only an *earlier* maximum but a heavier mortality, the sum of the death-rates per million in the male sex for the specified organs being as 277 to 172 in females.

The converse also holds true. Cancer of the peritoneum is more than twice as fatal in women as in men, and attains its maximum a decade earlier, because the causes (associated with the sexual functions of women) are more active in them. (See Diagram 3, p. 16.)

Cancer, then, is not a disease of old age but of morbidity, in other words, of degeneration, (Diagram 6, p. 22.)

Let the unprejudiced reader compare the respective points of view of the I.C.R.F. and of the writer. Stated briefly, the I.C.R.F. alleges that cancer is a disease of senility, admitting in almost the same sentence that what constitutes senility "is a problem at present beyond our powers." The writer's position is that "*cancer is a disease of degeneration, and such degeneration, to a greater or less degree, it is within our hands to accelerate or retard, to promote or restrain*"

The late Sir Pearce Gould, in his Bradshaw Lecture (1910) admitted that cancer was a disease of degeneration.

(3) Cancer and Alcohol.

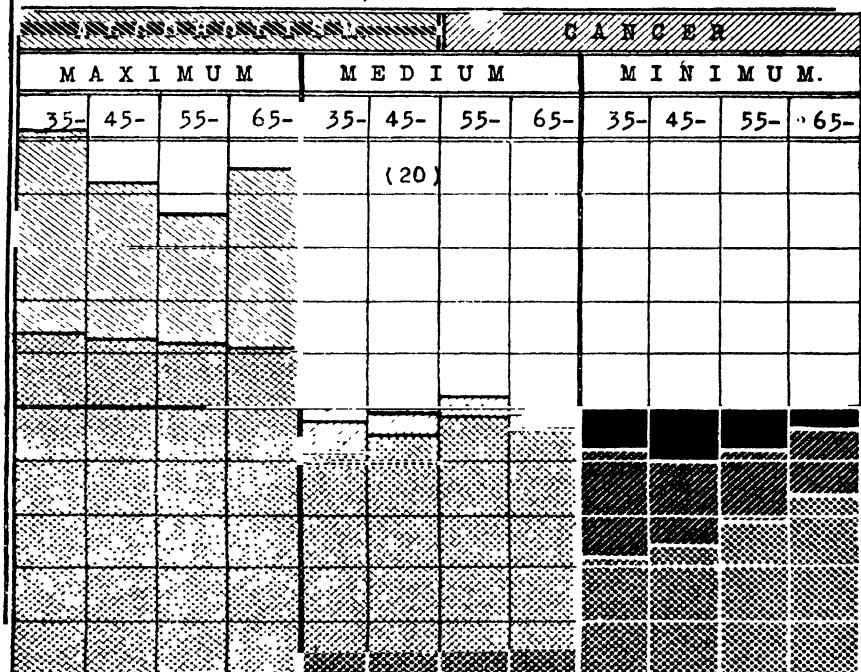
In an address on the "Problems of Cancer," delivered before the Brighton and West Sussex Medico-Chirurgical Society, December 7th, 1905, Dr. Bashford is reported as saying:—

"The occurrence of cancer in codfish off the banks of Newfoundland may not show that icebergs and fogs cause cancer, but it does show that dwelling in the neighbourhood of trees, or on a clay soil, living under the influence of civili-

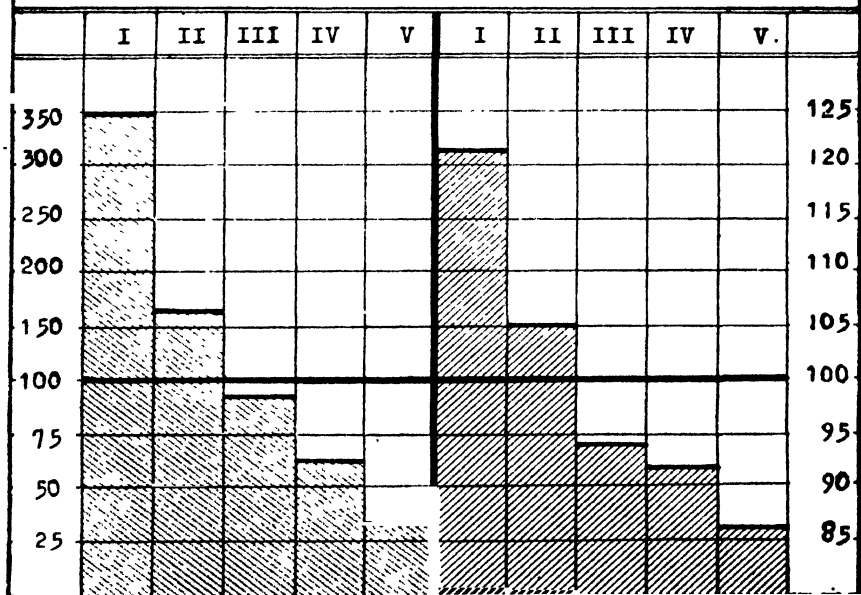
Diagram 7.

"OCCUPIED CLASSES," ENGLAND & WALES, 1900-02, @ 100.

THREE GROUPS, at FOUR AGE-PERIODS.



FIVE GROUPS "ALL AGES."



sation, or indulgence in alcohol, are not indispensable to the appearance of cancer."

The late Mr. Edmund Owen, in pleading for an addition of £20,000 to the modest £116,000, at which the Fund then stood, said that:—"It is somewhat of a comfort to find that the trout and the carp, undoubted water drinkers, are, with the rest of us, liable to cancer."

If the diagrams on pages 24 and 26 be referred to, the case against the abuse of alcohol becomes very clear. Diagram 7 at its upper part represents the occupied classes of England and Wales divided into three groups of maximum, medium and minimum mortality from cancer. The mortality from cancer and from alcoholism corresponds at each age-period with but one exception, which is probably explained by the fact that mortality from alcoholism being less pronounced in advanced years than earlier in life, an excess of cancer was associated with a very great excess of alcoholism. The graphic representation of the upper part of the diagram makes it quite clear that an excess of cancer is associated with a still greater excess of alcoholism, and a diminished death-rate from cancer is to be accounted for by a much greater diminution in that ascribed to alcoholism.

In the lower half of this diagram the occupied classes are divided into five groups, the scale of each being indicated by the figures accompanying, from which it is clear that the same law holds good, namely, that a greater and less mortality from cancer is associated with a still greater excess or diminution of the death-rate from alcoholism.

The diagram on the following page indicates the converse condition. The brewer suffers from a high mortality from "all causes," and from a still higher comparative death-rate from cancer. The general mortality in the case of the tobacco-conist in 1890-2 was very favourable, but the mortality from cancer at most age-periods very considerable. Can one avoid the logical conclusion that beer and tobacco are exceptionally favourable factors for the development of cancer?

(4) Chronic Constipation as a Cause of Cancer.

In the pamphlet already cited, "Cancer: a Working Theory for its Prevention and Cure," as one of the causes of cancer, there is instanced "imperfect excretion by the bowels." This is a point to which Dr. Robert Bell has paid very special attention, and on which he has deservedly laid great stress in his treatment of cancer. When the former Superintendent of

Diagram 8.

[illegible]

the I.C.R.F. defended himself before the Lord Chief Justice for the libel on Dr. Robert Bell, whom he had compared in the "*British Medical Journal*" to some of the most notorious charlatans of the past, he denied that constipation could be a cause of cancer in the sense advanced by Dr. Bell.

Nevertheless, the Special Cancer Number of the "*Medical Press*," previously cited, in which the remarkable article of Dr. Murray is published, contains two articles by surgeons of Guy's Hospital, which deal with the importance of "intestinal stasis" in the production of cancer, the term, "intestinal stasis" being a technical expression for "chronic constipation." The brief fact, however, remains, that in this domain, as in the other points just dealt with, the teaching of cancer research has been *in direct opposition to facts*, as demonstrated by the march of knowledge.

(5) The International List.

The attitude of the Imperial Cancer Research Fund investigators towards the problems of cancer may be best appreciated by considering their point of view in relation to the value of statistics, as indicated by the following quotation from page 54 of Part I. of the Second Scientific Report (1905):—

"The value of statistical enquiries for the future investigation of cancer rests on the control which they afford of the conclusions derived from other enquiries, and in the indications they give of the most favourable points of attack, rather than as a final means of elucidating the origin and nature of cancer."

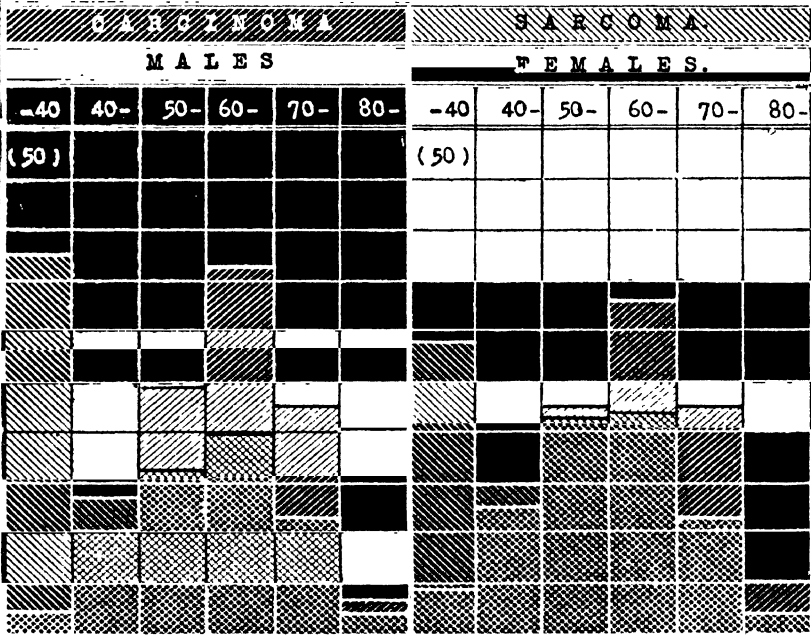
From what has already been said (page 19), it is perfectly clear that the I.C.R.F. appreciates the importance of age as a factor in the understanding of the problems of cancer, although unable to offer an explanation of the way in which it acts. Nevertheless, as late as 1911, the "International List" was introduced into the Annual Reports of the Registrar General, a classification of disease, so far as it relates to cancer, probably as fatally unscientific as was ever conceived by the human mind, because it groups together promiscuously diseases, the age distribution of which indicate fundamental variations of cause.

Of the two chief diseases included under the term, "cancer," viz., sarcoma and carcinoma, about 30 per cent. of the fatal cases of sarcoma occur before 35 years of age (approximately the same figure for both sexes), and only some

Diagram 9.

AGE-DISTRIBUTION OF CANCER.

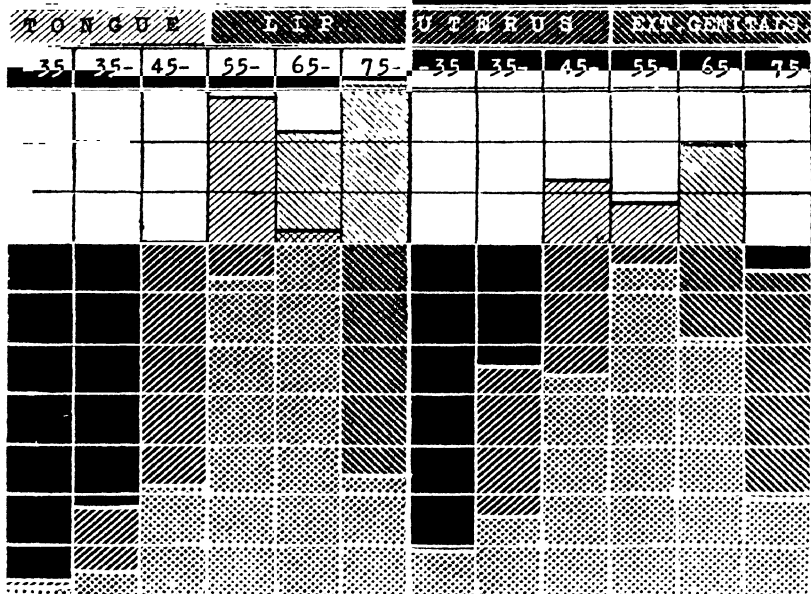
SWITZERLAND, 1901-1910.



ENGLAND AND WALES 1911-1913

BUCCAL CAVITY.M.

FEMALE GENITAL ORGANS.



2, or 3 per cent. of carcinoma, in the male and female sex respectively.

In Diagram 9, on page 28, the age-distribution of sarcoma and carcinoma is shown graphically for both sexes, as well as that of the tongue and lip in males (included, together with the mouth and jaw, under the term "Buccal Cavity") and the genital organs in women.

• In these last, for the first time in 1911 a distinction was made between the uterus and the external genital parts, the two having previously been grouped together under the term "uterus," although in Switzerland the respective cancers had been dealt with under separate headings since 1876. How very real the distinction is may be judged from the age-distribution displayed in the diagram.

From the statistical tables published in the Annual Reports of the Registrar General for 1898, 1899 and 1900, it appears that more than half the cases of cancer of the brain and less than two per cent. of cancer of the larynx are referred to sarcoma. Can one call that a classification which groups promiscuously such diverse diseases? And the same doubt applies to the "Buccal Cavity" which contains factors as dissimilar as are cancer of the jaw (of which more than a quarter of the cases are registered as of sarcomatous nature), and cancer of the tongue—of which about one case only in one thousand is referred to that disease. Yet such is the nature of the classification introduced in 1911!

(6) "Truth about Cancer Cure!"

In the *Pall Mall Gazette* of 7th June, 1922, there was an article to which special attention was drawn in the placards under the above heading—an article inspired evidently by an authority on cancer-research. It began thus:—

"Public interest in cancer eclipses interest in all other diseases. •

"Londoners, for example, are fully aware that it claims from their midst an average of a hundred victims per week. They are, therefore, intimately concerned, and very prone to give credence to the wildest of rumours concerning the discovery of a 'cure.'

"What the actual position is, from the medical point of view, is a fact that needs consequently to be widely placarded. Harm only can be done by allowing sufferers to hope for recovery, when those hopes cannot in any way be justified. It is best to be honest in a matter where nothing is to be gained by deceit." Notable reservation?

(7) Cancer Research and Operation.

At a recent interview, Dr. Murray told me that he regarded operation as a rational treatment of cancer in man because he had successfully operated on mice, the subjects of cancer. He did not tell me with what proportion of success; in other words, he furnished no statistics of his operations on his small patients. Dr. Bashford, on the other hand, in an article, "Illustrations of Propagated Cancer" (*Brit. Med. Jour.* May 26th 1906), published the following paragraph:—

"Tumours occur naturally in the mammary region of the mouse from the axilla to the groin. The accompanying photograph (Fig. 1) shows such a tumour *in situ*. Its highly malignant character is evidenced by the fact that it recurred three times after operation, had invaded the chest wall, and, as is shown in Fig. 2, had produced extensive metastases in the lungs."

Special attention is directed to the following quotation from the published works of the I.C.R.F., because it explains the observation recorded in the Annual Report of the Registrar General, to which reference will be subsequently made, viz., that secondary cancers are so frequently associated with cancer of the much-operated female breast.

"It is remarkable, however, that the tumour of Jensen's experiments does not produce metastases naturally, and its malignancy is only evidenced by its progressive infiltrative growth and the cytological characters." (1st Scientific Report of I.C.R.F., page 13).

On the other hand, in a series of transplantation experiments, each success is more malignant than that preceding it, and has less and less tendency to spontaneous cure, illustrating the observation made in man that each recurrence of cancer is ever more malignant in character than that preceding it.

It is not on mice, however, but on men and women, that the problem of operation, as a rational treatment of cancer, must be submitted to investigation; and it is to *national* mortality statistics that appeal must be made. Before doing so, however, there are certain dangers in cancer-research (apart from false teaching) to which attention should be directed.

For many years I kept—perhaps I have them still—the MSS. which I submitted to various editors of leading medical journals with a view to ventilating the question of operation. It is doubtful whether they could have been more modest, and tentative. Common sense, however, seems to

show that, when one dare not allow *both* sides of a question to get a hearing, it is because the dominant side is indefensible

It appears perfectly clear that if cancer-research be directed towards a false objective, if it be intolerant towards research in other directions, then the more powerful it is made by endowments, the longer must humanity wait until it is delivered from the thralldom of this dreaded disease, cancer. Rightly or wrongly, the author reads into the recent utterances of the apostles of cancer-research uneasiness lest the problems of cancer have been solved without recourse to its aid. It seems incredible that humanity allows such an equivocal position when the solution of the problem (from the practical standpoint) is so easy.

DANGERS OF CANCER RESEARCH.

(1) It is a point worthy of remark that the statistics of cancer in the Registrar-General's Annual Reports have been drawn up in association with the former Superintendent of the Imperial Cancer Research Fund, whose attitude with regard to the operation of cancer is no secret. Does it not appear strange that in 1911 the rubrics of cancer were so altered as to diminish the means of tracing by such statistics the course of the mortality due to cancer of the face and of the thyroid gland, two favourite sites of operation?

(2) The Imperial Cancer Research Fund discountenanced the idea of a Cancer Census, which might have provided data of enormous value, so obsessed was it with the fascination of vivisectional experiments. What will posterity think of the sacrifice of millions of sentient beings whilst problems awaited solution within the competence of simple statistical calculations?

(3) The Jews suffer, it appears, but very little from cancer—glorious testimony to the Mosaic laws of hygiene—their chief interest in the cancer-question being the financial one of obtaining a monopoly in its treatment. Might not one think that the following quotation from the Bradshaw Lecture of 1906, as the lecturer appealed for a further contribution of £20,000 for the Imperial Cancer Research Fund, contains some such suggestion?

“ At the time that Italian Art was at its highest pitch, rich and large-minded men were proud to come forward as ‘patrons of art’—a position which was not without occasional advantage to themselves, as they were thus enabled

to acquire treasures which might otherwise have been missed by them. At the present time, in England, Science is in want of such men. Fortunately, we have already some with us—fortunately, indeed—for without their help this Cancer Research Fund could scarce have been established.”

A few years ago, a serum, made in Germany, enjoyed the enthusiastic send-off of leading journals, both medical and lay, in this country. I went, therefore, to study its action on two occasions at an interval of three to four weeks, and thereafter published my observations in a pamphlet. The “*Medical Press*,” admitting its “fair and judicial” spirit, reviewed it in these terms:—“A more crushing exposure of pseudo-scientific fallacy parading in the garb of responsible medical wisdom could hardly be imagined.” Yet the names of two cosmopolitan financiers were given, who had offered immense sums for the secret of this serum.

Since then *mesothorium* has been vaunted as a specific for cancer. Newspapers incited Governments to purchase supplies at a price comparable only with that of radium. Now the use of “mesothorium,” it is said, is limited to the auto-illumination of watch dials!

If a serum is rendered antiseptic, or its alleged virulence attenuated by drugs, which in the hands of others have proved *remedies* in the treatment of cancer, how is it possible to say, whether it is the serum or the added remedy, which is really effective? Yet £4,000 has been demanded in advance for the treatment of a rich patient by such a serum!

Anti-diphtheritic serum was reported to be unfailing in the treatment of influenza. As there is no bacteriological relation between diphtheria and influenza, it seems reasonable to ask whether there is, in the anti-diphtheritic serum, some added antiseptic or attenuant, which might be the effective agent in both cases?

It appears perfectly clear that on every tube of medicated “serum” or “vaccine” of alleged bacteriological origin, the nature and dose of any added antiseptic or attenuant should be duly noted. The urgent need of some such provision is emphasised by the fact that the law gives no protection to an inventor for the *composition* of his remedy, which he must disclose before it will be taken into consideration by the medical authorities. What is there to prevent the addition of such a remedy (or of one or more of its constituents) to a serum or vaccine, which may, thereafter, be protected? As things are, not only is the most cruel fraud rendered possible, whereby the worker may be deprived of the fruit of his toil and of his self-

sacrifice, but independent research (outside the "competent medical bodies") is absolutely discouraged, to the great loss of the public.

A medical journal of world-wide authority regarded it as an "honour" to publish an article by the former Superintendent of the I.C.R.F. That journal now looks in another direction for salvation from cancer. One therefore hopes that humanity, which, until now, had seemed like the eagle in whose quivering breast is an arrow plumed with its own feathers, may yet make a triumphant flight.

In the former pages one did not exhaust all that might have been said in criticism of mice as tests for the reliability of therapeutic measures alleged to be successful in the treatment of cancer in mankind. It is said, for example, that in the human subject suffering from cancer in any situation there is an absence of hydrochloric acid from the gastric juice, but that this important feature does not apply to mice. This (if true) would confirm the author's opinion that mice differ fundamentally in constitution from mankind.

Later in the present work it will be suggested that imperfect mastication (the bolting of one's food) and deteriorated teeth are among the causes of cancer. Is that view to be dismissed as absurd because mice, the subjects of tumour, neither bolt their food nor need the dentist?

There is, so far as I know, but one observation made by the I.C.R.F. that has been of practical aid in the treatment of cancer in mankind. It was shown that cold did not destroy the vitality of the cells of mouse tumours, but that a very moderate heat did. This observation has been utilised both by Dr. Robert Bell and by myself in the treatment of cancerous patients, and for this indication we are indebted to the I.C.R.F.

When, on the other hand, one thinks of the false teaching resulting from observations made on the lower animals—teaching absolutely opposed to the lessons of vital statistics—one is more convinced than ever that in the domain of cancer as elsewhere,

"The proper study of mankind is MAN."

Table 1.

SWITZERLAND. by CANTONS, according to the Percentage of Registration of the Causes of Death in Medical and Other Cantons by Qualified Medical Practitioners.				
1 8 8 1 - 1 8 9 0	SWITZER- LAND.	Medical Cantons	Other Cantons.	
			Maximum Registr/n	Minimum Registr/n
Registr/n per cent.	8 9 . 6	9 3 . 2	9 6 . 8	7 7 . 00
TOTAL CANCER	1,0 0 0	1,0 0 0	1,0 0 0	1,0 0 0
Lip	3	4	2	3
Tongue	9	1 0	7	9
Thyroid Gland	1 2	1 3	9	1 4
Oesophagus	6 9	6 7	7 1	7 1
Stomach	4 1 2	3 7 5	4 5 9	4 1 3
Intestines	3 4	3 9	2 6	3 7
Rectum	2 1	2 5	1 7	1 9
Liver	1 0 5	9 4	1 2 0	1 0 3
Spleen	1	1	1	1
Pancreas	5	6	5	4
Peritoneum	2 0	2 0	2 2	1 9
Larynx	7	8	5	7
Lungs	3	4	2	4
Pleurae	1	1	1	1
Kidneys	5	6	5	5
Bladder	1 2	1 2	1 0	1 6
Prostate	1 6	1 9	1 2	1 4
Uterus	9 0	1 1 1	7 3	7 6
Ovaries	1 1	1 1	1 1	1 2
Vagina & Vulva	3	3	2	3
Breast	4 6	5 0	4 0	4 6
Skin of Face	2 0	2 1	1 7	2 2
SARCOMA	9 5	1 0 0	8 3	1 0 1

CANCER AND OPERATION.

* For centuries medical opinion has oscillated between two points of view as to the essential nature of cancer. Sometimes the theory of its local origin has held the field, sometimes the malady has been regarded as essentially constitutional in origin. Modern surgery, *supported by the teaching of cancer research*, has founded its practice in the domain of cancer on the acceptance of the theory of its local origin, with the natural consequence that operations have been undertaken as early as possible—even in anticipation of a possible cancerous degeneration of benign tumours—and practised with a thoroughness that would have surprised our forefathers. As the first-fruits of the modern operation of cancer were garnered, it has been said, in 1898, sufficient time has since elapsed to enable the theory of the local origin of cancer as a justification of operation to be submitted to experimental proof, by way of national statistics, the importance of which (as contrasted with private statistics of this or that operator) was emphasised by the Bradshaw Lecturer, before the Royal College of Surgeons of England in 1906, in the following passage:—

“To deal with percentages as applied to human beings may be correct enough when figures are worked out in large numbers by an unemotional actuary in the office of a life insurance company, but I do not look upon such calculations as of real value, when they are compiled by a surgeon, in his evening leisure, to set forth the result of his own treatment of certain sick people. Two patients with a disease called by the same name are not of the same clinical value, nor are twenty, nor are two hundred, and the sooner surgery discards the actuarial method in setting forth progress in connection with the treatment of cancer the better.”

Swiss statistics of mortality are still far in advance of all others for the purpose of our enquiry, seeing that since 1876 they have analysed the mortality returns according to cantons, sex and age, and furnished some two dozen rubrics of cancers, referring to the part of the body attacked. Moreover, since 1891, they deal with *resident populations*, an improvement that was first introduced into English statistics twenty years later, and the significance of which will be indicated shortly.

In order to investigate the course of the mortality ascribed to any cancer, in particular, in any country, whilst at the same time excluding all disturbing influences arising from change in the numbers of the population and their average span of life, as well as every other cause which might influence the tendency to cancer as a whole, it is but necessary to compare the number of deaths (case-mortality) referred to such particular cancer with the total cancer mortality, or *its proportion in one thousand cases*, at successive periods of time.

Everyone must acknowledge that surgical activity during the present century has exceeded—and progressively exceeded—all recorded previous experience. Consequently, if cancer be a local disease, then the progress of mortality must be comparatively more favourable in the case of those cancers *the most frequently operated* under the most favourable circumstances, that is to say, *at an early date, by an extensive operation, and at small immediate risk of life*. Moreover, these favourable results must be most marked *there* where the facilities for operation are the most advanced, as, for example, in the Swiss cantons endowed with universities having medical faculties presided over by the highest surgical talent available. A further consequence must be (always provided that cancer is a local disease) that the *average span of life will be prolonged* in patients the victims of cancer in these sites, as compared with that of patients suffering from cancers less amenable to surgical intervention.

What are the rubrics of cancer that come the earliest and the most frequently under surgical treatment? Obviously, those that are “*accessible*” to the observation of the patient or his doctor, or which cause early symptoms of sufficient urgency to compel the patient to seek medical help. Swiss statistics of mortality show that there is a very considerable excess of the comparative death-rate from these accessible and symptomatic cancers in the cantons where medical registration is least complete, whence it results *that advance in registration and diagnosis must diminish their proportion*. (See Table I, p. 34.)

In this country, even as late as 1905, the Superintendent of the Imperial Cancer Research Fund ascribed the apparent increase of cancer to the increased registration of *internal* cancers discovered by way of exploratory operations or post-mortem examinations; *he refused to admit any increase of the accessible cancers, a contention which is of the greatest importance, in view of what is to follow, because all increased registration of internal cancers must diminish the proportion*

of the accessible cancers in one thousand fatal cases in all sites, thus confirming the truth of the Swiss statistics.

The question of the local origin of cancer, as determined by operation, has been worked out during the present century with experimental accuracy and completeness:—

(1) A well-established operation (that of cancer of the female breast) has been more frequently practised, and immensely improved from the standpoint of surgical ideals as based on the theory of the local origin of cancer.

(2) New operations have been introduced and perfected to deal with the prostate gland, the tongue, and the larynx.

(3) Surgical propaganda has been directed to earlier intervention in the case of cancer of the uterus.

On the other hand, evidence is now available of the effects of diminished surgical activity.

(1) There was (to a certain degree) a sort of surgical interregnum at a time when so many distinguished surgeons in the belligerent States were absent at the war.

(2) There has been in Switzerland a return to medicinal treatment for enlargement of the thyroid gland (goitre).

(3) It would appear that the anti-operation propaganda of the present writer in England, and subsequently in Switzerland, was not without influence.

To the statistical proofs which will be offered under each of the above heads attention must now be directed.

Cancer of the Female Breast as a Type.

Cancers of the female breast are numerically very important. In 1919, there died, in Great Britain and Ireland, from this disease, more than 5,000 sufferers. It is the only rubric of cancer that permits of a comparison between the death-rates in America, in Switzerland, and in Great Britain and Ireland, during the whole course of the present century. A distinguished cancer specialist, in his monograph, "Cancer," maintained that the problems of cancer were more effectively studied in the female breast than elsewhere; and this organ certainly offers the nearest approach to the surgeon's ideal of operation.

It is scarcely necessary to refer to statistics (as I have done on former occasions) to prove *the increased frequency* of operations on the female breast. The evolution in surgical practice is evidenced by comparing the teaching of that eminent surgeon, John Abernethy, for whom St. Bartholomew's Hospital Medical School was founded, with that of

a modern teacher and examiner at leading Scottish universities:—

(1) “ In the first volume of these ‘ Observations,’ I
“ have given an opinion, which I am inclined even more
“ fully and strongly to repeat, that a great number of
“ tumours in and about the female mamma (breast)
“ arise from a disordered state of health in general, and
“ consequently, that the most judicious and effectual mode
“ of dispersing them is by correcting that general dis-
“ order. Such cases are very numerous, and very impor-
“ tant.”

(2) “ A patient comes complaining of a small, hard
“ lump, and the doctor may feel hesitancy in advising
“ an operation where there seems so little wrong, but if the
“ patient is over 30, we may take it for a fact that the
“ sooner that lump is removed, along with the breast and
“ glands, in the majority of cases the better it will be for
“ the patient.”

Mr. Childe’s teaching is to the same effect in his paper in the *British Medical Journal* of July 20th, 1907, entitled “ The Educational Aspect of the Cancer Question.

“ In the case of the breast, so large a majority of the tumours occurring in the last half of life are carcinoma, and the difficulties in diagnosis in some instances are so great that the rule advising the immediate removal of every breast tumour after 35 years of age should be universal, however innocent it appears from its clinical signs. I do not think the *pros* and *cons* of cancer should be considered at all. A tumour is present. It should be removed.”

The extent of modern operations on the breast has reached the limits of anatomical possibility; an eminent surgeon has rightly said that “ *our forefathers would not fail to be astonished at the thoroughness with which the modern operative methods deal with cancer.*”

From the statistics of the Middlesex Hospital it appears that, whereas, from 1858 to 1897, 36 per cent. of the patients with cancer of the breast did not present themselves at the Hospital until after ulceration had become established, in more modern times (from 1897 to 1903) only 22 per cent. of such cases were ulcerated on admission, proof that the tendency is to seek surgical aid *at an earlier date.*

Antiseptic precautions have *reduced the immediate mortality* of the formidable operations of to-day to *one-sixth* of that characterising the simpler operations of the past.

All advance in diagnosis in regard to cancer of the female breast must *diminish its proportion in 1,000 cases of female cancer in all sites*, partly by *the elimination of cases of syphilis, of tubercle, etc., formerly registered as cancer*, partly by *the increased registration of internal cancers* as a result of the practice of exploratory operations and post-mortem examinations, accessions which naturally *swell the total*, and thereby *diminish the proportion* of all such "accessible" cancers as those of the breast. Naturally, such diminution should be most marked *there*, where diagnostic facilities are the most advanced, *e.g.*, in the Swiss cantons with medical schools.

It is generally admitted, I presume, that *metastases* are more common following on operation of cancer of the female breast than when such cases are left without surgical intervention. Hence, if such metastatic cancers (for example, of the lungs, liver or spine) be registered as the cause of death, the deaths attributed to cancer of the breast must be correspondingly diminished. (See note of Registrar-General, p. 42.)

Moreover, in so far as cancer of the breast may be due to the *functions of motherhood*, the fall in the birth-rate must diminish the proportion of deaths from this disease, especially at the earlier age-periods, say, before 55 or 60 years of age.

Table 2.

Age distribution of cancer of the breast compared with that of non-sexual cancers in Women.					
E & W. 1901-10	All ages	0.35	35-54	55-64	65 & more
Cancer of Breast ...	100.0	2.1	37.1	25.8	35.0
Non-sexual Cancers	100.0	4.2	24.7	27.8	43.3

In comparing the percentage age-distribution of fatal cancer of the breast in women with that of her non-sexual cancers, one notices (Table 2) that between 35 and 55 years of age the proportion of cancer of the breast is half as much again as in the case of non-sexual cancers, a proportion which is but little affected by the inclusion of the fatal cases before 35 years of age. This obviously indicates that the special function of woman, motherhood, plays an important part in the genesis of cancer of the breast before 55, with the necessary consequence that *a falling birth-rate must diminish such percentage*. And it is notorious that the birth-rate has fallen not only in England and Wales, but in Switzerland, to a phenomenal degree.

Everything, therefore, tells in favour of the surgeon. If the course of the death-rate ascribed to cancer of the breast is unfavourable, *it is in spite of every factor which has diminished the figures in his favour.*

ELOQUENT FIGURES.

With regard to cancers of the female breast (see Tables) what we find, as the result of the evolution of professional teaching in this domain with the consequent immense increase of operative activity during the present century, is this:—

(1) In England and Wales, in Scotland, in America, and in Switzerland, there has been a very serious and progressive increase in the proportion of fatal cases of cancer of the female breast in the total of 1,000 deaths from cancer in women. (Table 3.) The significance of this fact is heightened by the knowledge that there had been no advance at all in Switzerland from 1881-1890 to 1891-1900 (a period of far less operative activity), and that in England there had been, in fact, a very sensible diminution, viz., from 242 in 1868 to 158 in 1898. (Table 4.)

Table 3.
Cancer of the Breast.

Per 1,000 deaths from female cancer in all sites.														
			1901-03			1906-08			1911-13			1916-18		
America	...	...	1	3	0	1	4	1	1	5	5	1	5	6
England and Wales	...	...	1	6	5	1	6	8	1	7	4	1	8	0
Switzerland	...	...		9	8	1	0	8	1	2	0	1	2	7
			1902-04			1907-09			1912-14			1917-19		
Scotland	...	...	1	3	8	1	3	0	1	4	2	1	4	7
Ireland	...	...	1	6	8	1	6	5	1	5	9	1	5	6

Table 4.
England and Wales. Cancer of the Female Breast.

Per 1,000 cases of female cancer in all sites.				
		1868	1888	1898
Death-rate	...	2 4 2	1 8 3	1 5 8
Birth-rate	...	35.8	31.2	29.3

(2) In England and Wales, in Scotland, in America and in Switzerland, there has been during this century an increasing proportion of deaths before 55 or 60 years of age, showing that the average duration of life in patients suffering from cancer of the breast had been shortened (Table 5) although in cancer, as a whole, there has been a tendency to the postponement of the fatal issue.

Table 5.

Percentage of deaths before 60 years of age in America and in Switzerland; before 55 years of age in England and Wales, in Scotland and in Ireland.				
	1901-03	1906-08	1911-13	1913-18
America	56.5	56.6	57.2	58.0
England and Wales ...	39.9	39.2	40.3	40.2
Switzerland	49.1	52.6	54.4	55.5
	1902-04	1907-09	1912-14	1917-19
Scotland	38.3	37.6	43.8	41.7
Ireland	45.3	44.3	41.8	43.3

(3) Both the facts above mentioned, on an average, are much more pronounced in the Swiss cantons endowed with universities having medical faculties than in the remaining cantons. And the *rates of progression* are, in both cases, much more serious in the medical than in the other cantons. As Swiss statistics are based on "resident populations," surgeons cannot say that the figures are exaggerated on account of death of strangers or foreigners attracted by their reputation. (Tables 6 and 7.)

(4) Ireland, where medical and surgical science is admittedly less advanced, is the only country where there has been any diminution of the proportion of breast-cancers, or postponement of the fatal issue to a later period. (Tables 4 and 5.)

Table 6.

Cancer of the Breast in Switzerland.

Per 1,000 deaths from female cancer in all sites.				
	1901-03	1906-08	1911-13	1916-18
(a) Medical Cantons...	1 0 0	1 1 9	1 2 4	1 3 8
(b) Other Cantons ...	9 7	9 9	1 1 6	1 1 8

Table 7.

Percentage of deaths before 60 years of age.				
	1901-03	1906-08	1911-13	1916-18
(a) Medical Cantons ..	47.0	53.2	54.2	57.1
(b) Other Cantons ...	50.9	51.9	54.5	53.8

(5) From a paper by Drs. F. Campiche and Lazarus-Barlow, in Vol. V., 1905, of the Archives of the Middlesex Hospital, it appears that each step in the evolution of modern operation for malignant disease of the breast has been attended, *in the case of patients whose history is completely known, because they eventually died within the wards of the Institution*, by a shortening of the period during which the patient remained free from recurrence, and by a curtailment of her span of life from the time of the first operation. (Table 8.)

Dr. Lazarus-Barlow suggests that I have "strained" the figures. Figures are either accurate or inaccurate. He does not correct any inaccuracy. To me he appears to "strain" logic to its breaking point, when he suggests that the majority of the patients who did not return to the Hospital may be considered as cured—for *disappointed patients are not likely to return, and the dead cannot*.

Table 8.
Cancer of the Female Breast.
Middlesex Hospital, London.

Type of Operation.	Date of first recurrence.	Duration of life after first operation.
Simple	22.0 months	34 months
Intermediate	10.5 "	29 "
Modern	9.9 "	14 "

There is a very suggestive statement in the Registrar-General's Annual Report for 1913 (page lxi) which reads as follows:—

"Secondary growths are mentioned with especial frequency in certified cases relating to breast cancer. Deaths so certified amount to over 33 per cent. in the case of the breast, whereas in the case of the other most important sites in the aggregate (excluding the liver, which is always, in the absence of a definite statement to the contrary, assumed to be secondary to any other site mentioned along with it), this proportion falls short of 10 per cent."

MODERN OPERATIONS.

Cancer of the Prostate, of the Tongue and of the Larynx.

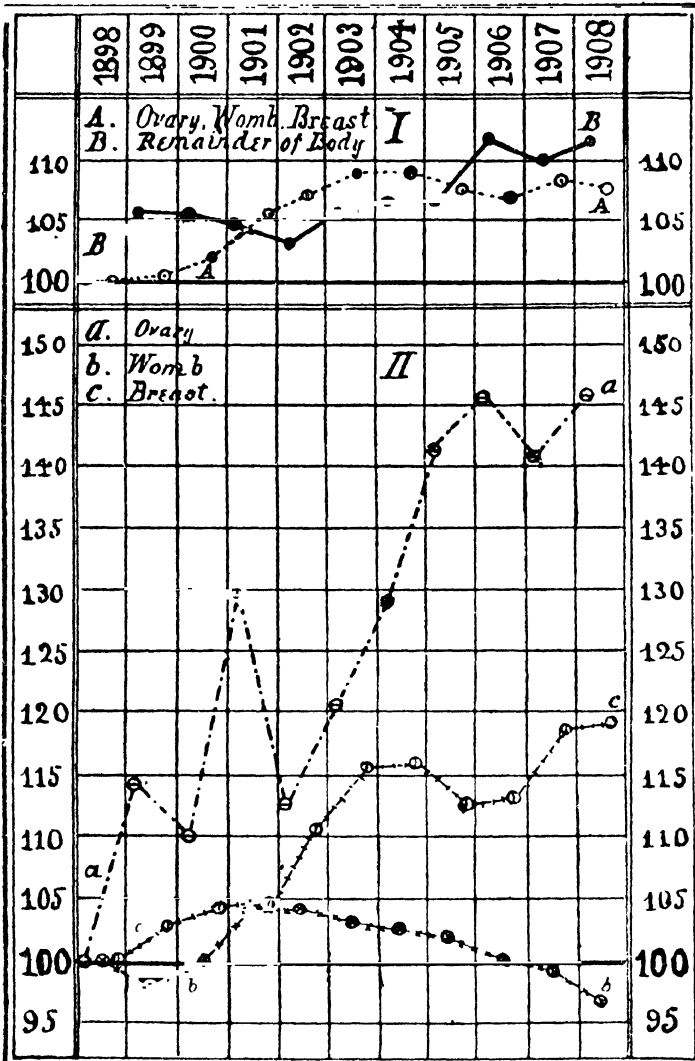
Early in the present century an operation was introduced into English surgical practice for removal of the hypertrophied prostate gland, an operation which was adopted into the repertory of the Swiss surgeons somewhat later. Moreover, early in the century, special efforts were made to popularise operations on the tongue and the larynx.

The course of the respective death-rates in England and Wales, and in the medical and other cantons of Switzerland, is sufficiently striking. The principal points worthy of note are: that the comparative death-rate from cancer of the prostate has more than tripled, both in England and Wales and in the medical cantons of Switzerland; that, in each case, prostate, tongue, larynx, the figures are much more unfavourable in the medical cantons than in the other Swiss cantons, with the one exception of those referring to cancer of the prostate, which, in the period, 1901-03 (that is to say, before the introduction of the operation) were in excess in the non-medical cantons, as one would expect in the cantons where medical registration was less perfect. (See Table 1, p. 34.)

Table 9. ,

Per 1,000 deaths from Cancer in Male in all sites.				
Cancer of the Prostate.				
	1901-03	1906-08	1911-13	1916-18
England and Wales ...	8.7	17.8	24.5	30.0
Swiss Medical Counties	7.9	18.4	29.7	29.5
„ Other „	10.1	16.9	18.2	26.8
Cancer of the Tongue.				
England and Wales ...	54.4	55.6	57.9	58.7
Swiss Medical Cantons	23.7	26.5	21.2	24.5
„ Other „	15.4	18.9	17.0	19.1
Cancer of the Larynx.				
England and Wales ...	17.8	21.1	24.4	28.7
Swiss Medical Cantons	42.5	48.7	61.6	66.1
„ Other „	34.7	33.0	35.7	53.6

Diagram 10.



This diagram illustrated the leaflet published in 1909 which is referred to on page 45.

CANCER OF THE UTERUS.

In England and Wales, and in Switzerland, in consequence of the falling birth-rate, there had been a gratifying diminution of the death-rate from cancer of the womb, especially before the age of 55 in England and Wales, and before 60 in Switzerland. In 1906, in Switzerland, and in 1907, in England and Wales, a campaign was inaugurated to educate women to put themselves earlier into the surgeon's hands. The effect of this campaign was not less disastrous than I ventured to predict in a leaflet published at the end of 1909.

The Registrar-General's Annual Report for 1908 had pointed out that the death-rate from cancer of the female organs of generation had virtually come to a standstill since the beginning of the present century. This was immediately claimed as a triumph of surgery. I pointed out, however, that the term, "female organs of generation," comprises three factors, the ovary and the breast on the one hand, and the uterus on the other hand. The frequency of operations on the ovary and breast was a matter of common notoriety, and here the death rate had risen annually four and two per cent., respectively. The death-rate from cancer of the uterus which the surgeon admittedly saw but rarely early enough for a favourable operation (hence the inauguration of the educative campaigns above referred to), had fallen annually 1 per cent., in consequence of the falling birth-rate, which naturally affects the mortality returns most at the earlier age-periods, say, before 55 or 60 years of age.

It will be seen from the actual figures (case-mortality) that the lowest number of fatal cases was registered in England and Wales, and in Switzerland, for the triennium when the educative campaign was inaugurated. Thereafter,

Table 10.
Cancer of the Uterus.

Case-Mortality in England and Wales before 55 ; in Switzerland before 60 years of age. The term, Uterus, includes the external organs of generation in England and Wales, but not in Switzerland.				
	1901-03	1906-08	1911-13	1916-18
England and Wales ...	6,104	5,727	5,806	6,047
Switzerland	619	591	595	594

[illegible]

there has been a rise, in spite of ever-progressively accentuated fall in the birth-rate.

It is not often that "case-mortality" lends itself so effectively to a comparative statistic as in the above Table, but what is true of "absolute figures" is also true of the proportion per thousand cases of female cancer in all sites.

In Switzerland, the proportion of cancer of the uterus had fallen in ten years, 1881-1890 to 1891-1900, from 177 to 159 per thousand, and in England and Wales in thirty years, 1868-1898, from 380 to 251. The progress, in consequence of the educative campaign, and *in spite of an ever-falling birth-rate*, is as follows:—

Table 11.
Cancer of the Uterus.

Per thousand cases of female cancer, in all sites.
The term, Uterus, includes the external organs of generation
in England & Wales, but not in Switzerland.

		1901-03			1906-08			1911-13			1916-18		
England & Wales	...	2	3	1	2	1	2	1	9	7	1	9	1
Switzerland	...	1	5	6	1	4	4	1	4	5	1	3	5
Medical Cantons	...	1	7	8	1	6	2	1	4	8	1	4	8
Other Cantons	...	1	3	7	1	2	9	1	4	2	1	2	4

From the Table one learns that although in England and Wales there has been a diminution of 34 per thousand in the first ten years, in the last five years there has been a decrease of only six. In Switzerland one remarks not only a constant excess in the medical cantons as compared with the others, but that the progressive decrease in the former had come to a standstill during the last five years, although there had been a marked diminution in the non-medical cantons.

The two pages, 46 and 48, are occupied by diagrams that demonstrate graphically the influence of the sexual functions in the causation of cancer of the sexual organs in women at the earlier age-periods. Their object is to support the other evidence adduced which proves that child-bearing is an important factor in the causation of cancer of the uterus and breast during the earlier half of the "cancer-age," with the necessary logical consequence that a falling birth-rate must inevitably diminish such mortality, as indeed was apparent both in England and Wales and in Switzerland until surgical propaganda, dating from 1906, obscured the result.

Diagram 12.

[illegible]

CANCER OF THE THYROID GLAND.

Effects of a return to Medicinal Treatment.

In Switzerland, in 1877-1880, the comparative death-rate from cancer of the thyroid gland was 9.4 per thousand fatal cases of cancer, in all sites, both sexes taken together.

The introduction of surgical operation for goitre (previously treated in Switzerland by iodine) was followed by a progressive mortality from cancer of the thyroid gland, until in 1911-13, the death-rate had reached in the medical cantons 17.8 per thousand. A return during the last few years to the medical treatment formerly adopted (special attention being likewise paid to the bowels) has been followed by an astounding diminution of the death-rate from cancer of the thyroid gland, the improvement being most marked there, where previously operation had borne the bitterest fruits, viz., in the cantons with universities having medical faculties. It is interesting to note that already in 1906 I had printed my opinion as to the efficacy of iodine in the treatment of cancer.

Table 12.

Switzerland. Cancer of the Thyroid.

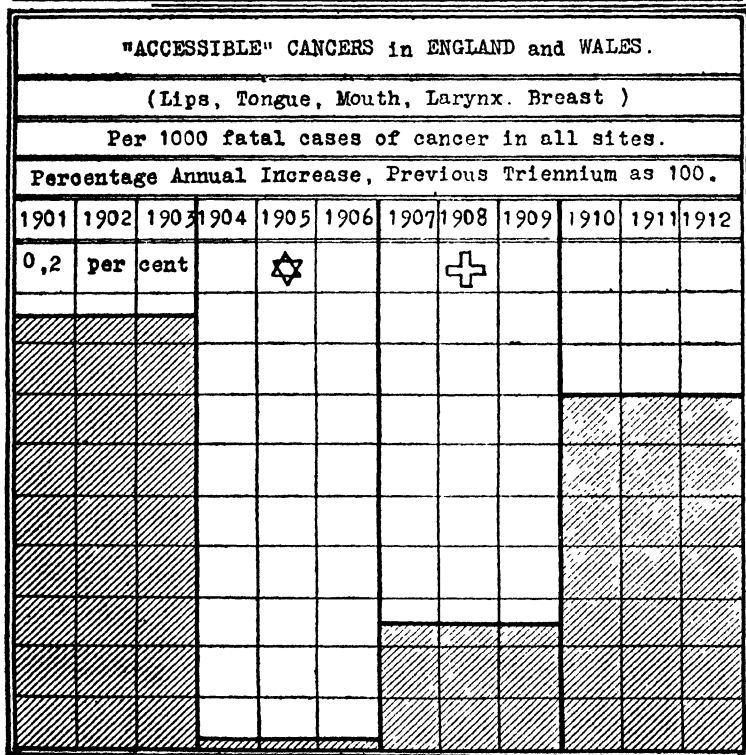
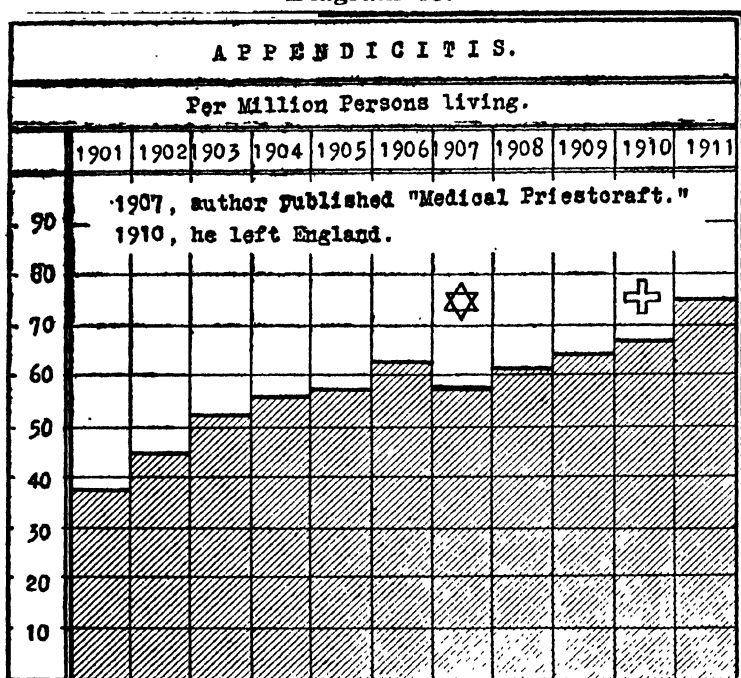
Per thousand deaths from Cancer in all sites, in both sexes.				
	1901-03	1906-08	1911-13	1916-18
Medical Cantons ...	15.4	16.7	17.8	5.5
Other Cantons ...	11.9	14.2	15.8	6.5

AN INTERREGNUM, 1916-18.

The question has been raised as to the effect of the absence of a large proportion of the surgeons at the war during the last period under consideration, 1916-18.

Referring to the Table which records the comparative mortality due to cancer of the female breast, one sees that, although the death-rate in England and Wales continued to rise without interruption, *the sum of the death-rates in the belligerent States, taken together, indicates a complete arrest of the upward rise*, whereas in the medical cantons of Switzerland, there was but a slight retardation.

Diagram 13.



ANTI-OPERATION CRUSADES.

It is worthy of remark that the author's crusade in England, 1906-10, was attended by such a measure of success as to find its justification in the Annual Reports of the Registrar-General. The statistics of cancer mortality in Neuchâtel, Switzerland, likewise suggest the beneficent effect of anti-operation propaganda.

As a sequel to the successful operation on King Edward VII., at the commencement of his reign, the death-rate from "appendicitis" rose between 1901 and 1906 to the amount of 63.1 per cent., *i.e.*, 12.6 per cent. per annum. In 1907, when I published "Medical Priestcraft,"—thanks to the generous support of the Press,—for the first time, the death-rate fell, *viz.*, 8.0 per cent. From 1907 to 1910, when I left England, although the death-rate had risen again 15.8 per cent., the average annual increase is less than one-half that which had characterised the mortality before the publication of my book.

In 1911 the rubrics of the "accessible cancers" were altered in the Annual Reports of the Registrar-General for England and Wales in association with the Superintendent of the Imperial Cancer Research Fund—one wonders why?—so that the "accessible cancers" available for comparison are thereby restricted to the lip, tongue, mouth, larynx and breast.

The writer began his campaign against operation in the domain of cancer in England in a very modest and tentative way in 1904, but it was only in 1906, 1907, that he published his first books on the subject. If the interval between 1898 (when modern operations are said to have borne their first fruits) and 1913 be divided into five periods of three years each, *viz.*, 1898-1900, 1901-1903, 1905-1907, 1908-1910, 1911-

Table 13.

CANCER in ENGLAND and WALES.

"Accessible Cancers."

(Lips, Tongue, Mouth, Larynx, Breast.)

Per 10,000 Cancers in all sites.				
1898-1900	1901-1903	1905-1907	1908-1910	1911-1913
1,429	1,504	1,506	1,527	1,589
Progression	+5.2%	+0.1%	+1.4%	+4.1%

Diagram 14.

[illegible]

1913, it will be seen that the central triennium corresponds with the publication of the author's first books on cancer, when the Press in England gave him the most generous support.

In 1910 I came to Neuchâtel. It might be difficult to find another spot where an anti-operation campaign was more needed. Consider the figures in the following table, as they refer to the three periods of ten years, 1881-1890, 1891-1900, • 1901-1910, periods which may be described respectively as of minimum, intermediate, and maximum operative activity.

(a) During the period of minimum operative activity, the death-rate from "accessible cancers" was more favourable in the canton of Neuchâtel than for Switzerland, as a whole.

(b) During the period of intermediate operative activity, Neuchâtel nearly lost this enviable position and showed a marked rise in mortality, although in Switzerland as a whole there was a decrease, owing to improved diagnosis and better hygiene.

(c) During the decennium of maximum operative activity, the death-rate in the canton of Neuchâtel exceeds even that of the cantons with medical schools.

If this last period of ten years be divided into two terms of five years, and the mortality in these quinquennia be com-

Table 14.
"Accessible Cancers."
(Tongue, Larynx, Thyroid, Face, Breast.)

Per 1,000 Cancers in all sites.			
	1881-1890	1891-1900	1901-1910
Neuchâtel ...	82	91	152
Switzerland ...	94	92	119
	1901-1905	1906-1910	1911-1915
Neuchâtel ...	139	165	153
Switzerland ...	113	125	129

pared with that of 1911-1915, it is clear that the death-rate from "accessible cancers" continued to rise more rapidly in the canton of Neuchâtel than in Switzerland as a whole until after 1910. The five years immediately succeeding the present writer's arrival in Neuchâtel were characterised by a very marked fall of mortality in respect of "accessible cancers," although for Switzerland as a whole the death-rate per thousand cases of cancer in all sites had continued to rise.

Table 15.

England and Wales, 1897-1917. Sites of Fatal Cancer.

Crude Death-rates per Million Living.						
Accessible Cancers.						
	Males.			Females.		
	1897	1917	Mortality in 1917 per cent. of that in 1897.	1897	1917	Mortality in 1917 per cent. of that in 1897.
Breast ...	1	3	300	143	213	149
Skin ...	14	33	236	9	20	222
Jaw ...	19	34	179	6	9	150
Tongue ...	32	75	234	5	6	120
Lip ...	10	17	170	1	1	100
Mouth ...	9	22	244	2	2	100
Larynx, etc....	12	35	292	5	8	160
Rectum ...	55	138	251	49	73	149
Thyroid body	1	2	200	2	5	250
Parotid gland	2	4	200	1	2	200
Globe of Eye and Orbit ...	2	3	150	2	2	100
Testes, Penis, Scrotum ...	10	18	180	—	—	—
Uterus, etc. ...	—	—	—	217	228	105
TOTALS ...	167	384	230	442	569	129
Less Uterus...	—	—	—	225	341	151
Inaccessible Sites.						
Brain ...	9	3	33	7	2	29
Intestines ...	40	137	343	48	137	285
Bladder ...	21	40	190	8	13	163
Prostate ...	4	40	1,000	—	—	—
Ovary ...	—	—	—	16	29	181
TOTALS ...	395	808	205	409	574	140

LESSONS FROM THE ANNUAL REPORT.

1897-1917.

The Annual Report of the Registrar-General of England and Wales for the year 1917 contains some tables of exceeding interest. Once more three facts must be insisted on:—

(1) That as late as 1905 the Director of the Imperial Cancer Research Fund refused to admit any *real* increase in the death-rate of cancer, because such apparent increase did not affect “accessible” cancers.

(2) That it is “accessible” cancers that are the earliest and the most frequently operated on, because they come the most readily and the earliest under the cognizance of the patient and his doctor.

(3) That the modern operation of cancer is claimed to have first borne fruit in 1898.

Concerning fatal cancers in males the Annual Report for 1917 states:—

“Excluding sites of rare occurrence the most rapid increase of this group is that for the larynx, followed in order by the rectum, mouth, skin, tongue, genitals, jaw and lip. For all of these the increase is substantial, even allowing for the extent to which it has to be discounted, and this all-round character of the increase in the mortality of males from accessible cancer forms a striking feature difficult to explain if the increase is not largely a real one.

“The increase in mortality attributed to prostatic cancer is phenomenal, and forms the most obvious instance in the list of a growth which must be attributed to increase of knowledge rather than of cancer.

“The decrease in brain cancer is largely due to decrease in enquiries made of late years as to cerebral tumour.”

“The chief contribution towards the increase in mortality of females from accessible cancer have been made by the breast, rectum, skin and uterus, the breast yielding more than half the total of the whole group. The most rapid increase, omitting unimportant sites is that of the skin, followed by the larynx, jaw, breast, rectum, tongue and uterus. Standardisation would convert the increase of 5 per cent. in uterine cancer into a decrease of about the same amount.

“The broad result is that amongst males mortality from accessible cancer has increased more rapidly than

from inaccessible, whereas amongst females the position is reversed, the result for both sexes jointly being a moderate excess of increase from inaccessible cancer. The result is very different from that derived from the Frankfort figures, and lends no support to the view to which these figures still seem to point.

“ The theory which attributes the increase to improvement in diagnosis is so intrinsically probable that the result of the tabulation is most unexpected. If accessible and inaccessible cancer were in fact increasing in equal ratio there can be little doubt that records of certification covering an interval of 50 years would show greater apparent increase of inaccessible, with improving diagnosis. It follows, therefore, that in males, mortality from accessible cancer has been increasing much faster than from inaccessible. The jaw and tongue furnish instances the significance of which can hardly be called in question. There seems no reason why cancer of either organ should not have been diagnosed at the time of death just as easily 50 years ago as at present, and no change in nomenclature obscures the comparison, yet in 47 years the increase amounted to 223 per cent. in the case of the tongue, and to 493 in that of the jaw.”

Very respectfully I beg to submit the following criticisms of the statements made and the deductions drawn by Dr. Stevenson in the Annual Report for 1917 as above cited:—

(1) Frankfort statistics have never merited the attention paid to them, or justified conclusions so far-reaching in their importance. In the first place the figures are, comparatively speaking, very small. Moreover, it would appear that the population was in a very abnormal condition, seeing that from 1860 to 1866 the male population was to the female as 109 to 100, whilst in 1888-1889 the relationship had become the more normal one of an excess of females, in fact, as 121 to 100.

(2) Although it is perfectly true that the accessible cancers, as a whole, are in females advancing less rapidly than the inaccessible, nevertheless the statement requires some explanation lest it give a wrong impression. Little less than one-half of the total female accessible cancers are referable to the uterus, the mortality from which is diminished by the falling birth-rate, which from 1897 to 1917 fell from 29.6 to 17.8 per thousand living. Consideration of the diagrams on pages 46, 48 and on the upper part of page 91, so far as they deal with the uterus, will demonstrate conclusively

the enormous influence which child-bearing has on the development of uterine cancer. If the cases of cancer of the uterus be subtracted from the list of accessible cancers in females, the sum of the remaining accessible cancers will be seen to have grown from 225 to 341, or an increase of 51 per cent., as against 40 per cent. for inaccessible cancers in women.

(3) On first reading the figures of the registered death-rates attributed to malignant disease of the brain, I had hoped that they might indicate an advance in the rational treatment of this disease; I opined, indeed, that presumed cases of glioma were being subjected to adequate doses of iodide of potassium for a reasonable time before considering the question of submitting the patient to an operative intervention. I had published in 1907 an analysis of certain statistics which seemed to show that the surgeon and the patient viewed success from a different angle. Speaking broadly, the inoperable cases recovered permanently; the tumours successfully removed were followed by fatal recurrences. There is no doubt, however, that Dr. Stevenson's suggestion in the Annual Report is the correct one: the apparent improvement is but a question of change of nomenclature. Non-malignant tumour of the brain was first differentiated in the Reports in 1901. Hence it is from this time only that a comparison becomes possible, as seen in Table 16.

Table 16.
Tumours of the Brain.

Death-rates per Million.						
			Males		Females	
			1901	1917	1901	1917
Malignant	...	...	10	3	8	2
Non-malignant	...	...	13	30	11	23
Together	...	...	23	33	19	25

(4) With the explanation offered by Dr. Stevenson in regard to the "phenomenal" advance of the mortality ascribed to malignant disease of the prostate, viz., that it "forms the most obvious instance in the list of a growth which must be attributed to increase of knowledge rather

than of cancer," I am utterly unable to agree. To justify the hypothesis of Dr. Stevenson there must be a diminution in the registered figures ascribed to non-malignant tumours of the prostate, the statistics of which have been forthcoming only since 1911. In 1911 there were 32 deaths registered to the account of non-malignant tumour of the prostate, and in 1917, these figures had advanced to 47. After correction for change in the figures of the male population this represents an increase of about 84 per cent.

Prostatic obstruction is a disease which drives the patient to his doctor. It has already been seen that there was an excess in the non-medical cantons of Switzerland in 1901-03. Similarly, in 1881-1890, there was a comparative excess in the Swiss cantons where registration was the least complete, as may be seen from the Table on page 34, which shows what are the cancers which (in addition to those which are unquestionably accessible) induce the patient to seek medical assistance. We recognise such by their comparative excess in the cantons where medical registration is the least complete.

Before leaving the subject of the prostate, I must place on record my personal opinion that the phenomenal increase of mortality from prostatic cancer is the direct and disastrous result of surgical intervention, and that a return to medical treatment would be attended with the happy results already demonstrated in the case of the thyroid gland.

(5) It would not be fair to lay to the charge of operation the whole of the increase from cancer of the jaw and of the tongue, to which increase, doubtless, intensive consumption of tobacco has contributed. But the rise in the death-rate from cancer of the lip in males and of the skin in both sexes is very remarkable and suggestive. Cancer of the lip was mostly due to the smoking of short clay pipes; and imperfect cleanliness (when soap was dear) certainly played an important part in the causation of cancer of the skin. One had a right to expect a decrease in the cancer-mortality under these two heads from a diminution in the admitted causation; but the result is far otherwise.

CANCER-MORTALITY IN INSTITUTIONS.

It will be remembered that no real increase in the death-rate from cancer was admitted (see page 15), because the figures referring to "accessible" cancers showed no such augmentation. In 1911 a new statistic was introduced into the Registrar-General's Annual Reports, which records the mortality from cancer in the clinical institutions of England and Wales, viz., the hospitals, infirmaries, and nursing-homes, with a view to settling the question whether the increase of cancer as registered was *real* or only *apparent*, owing to increased facilities for diagnosis and registration. With regard to the statistics of cancer-mortality in institutions, the Annual Report for 1911 (page lxxviii) states:—

"The object of their separate tabulations is to compare the experience of institutions, where presumably the details of the cause of death have as a rule been confirmed by post-mortem examination, with the certification of other deaths from cancer, in the case of which such facilities are as a rule lacking."

Obviously, therefore, if the increase of cancer was apparent and not real, there should be a considerable com-

Table 17.

Proportion in 1,000 cases of cancer, in each sex, of the "accessible" cancers comprised in the following list, viz., Breast, Skin, Jaw, Tongue, Lips, Mouth, Larynx and Rectum in both sexes, together with the Testes, in Men; and the Uterus with the Vagina and Vulva, in Women.

1911 - 1913

		All Ages	0-54	55-64	65 & upwards
Males.	Institutions	337	284	350	383
"	Private ...	277	273	272	283
Females.	Institutions	500	512	483	496
"	Private ...	460	574	448	384

1916 - 1918

Males.	Institutions	349	282	361	407
"	Private ...	285	292	281	285
Females.	Institutions	516	527	484	527
"	Private ...	462	583	453	381

parative excess of internal cancers in institutions, which implies a comparative diminution of the "accessible" cancers. But "accessible" cancers are those the earliest diagnosed and the most favourably situated from the point of view of operation. It is a question, therefore, whether operation acts in the same direction as increased facilities for diagnosis in diminishing the comparative mortality from "accessible" cancers—or in the contrary sense.

The figures in Table 17 are sufficiently eloquent. There is an important comparative excess of mortality ascribed to "accessible" cancers in Institutions, both at "all ages" and from 55 years of age upwards. That before 55 there is an excess in "private," seems to prove that at the earliest age-period the patients more frequently survive the operation—subsequently to die in their own homes.

There are some cases of cancer which are not "accessible," but, nevertheless, come early under observation, in consequence of symptoms which may call urgently for relief. They are also, one and all, favourite sites of surgical intervention. These are considered in Table 18 as hereunder.

Table 18.

Proportion in 1,000 cases of cancer, in each sex, of the "symptomatic" cancers comprised in the following list, viz., Brain, Intestines, and Bladder, in both sexes, together with the Prostate, in Men; and the Ovary, in Women.					
1911 - 1913					
		All Ages	0-54	55-64	65 and upwards
Males.	Institutions	173	161	167	194
"	Private ...	161	119	141	196
Females.	Institutions	186	193	184	179
"	Private ...	138	105	131	167
1916 - 1918					
Males.	Institutions	176	151	166	212
"	Private ...	169	116	147	209
Females.	Institutions	187	180	204	184
"	Private ...	148	111	142	178

In the above Table one notes with interest that the mortality from the "symptomatic" cancers is specially unfavourable in the female sex in "Institutions," probably from the inclusion of the intestines and of the ovary.

Not only is there a larger proportion per 1,000 of fatal cases of the "accessible" and "symptomatic" cancers in institutions than in private homes, but the age-distribution of the fatal cases shows that such patients die earlier in institutions than in their homes, and this to a very remarkable extent, as may be judged by the following Tables:—

Tables 19 and 20.

Age-Distribution per cent. at three age-periods of the "accessible cancers" comprised in the following list, viz., Breast, Skin, Jaw, Tongue, Lips, Mouth, Larynx and Rectum in both sexes, together with the Testes, in Men; and the Uterus with the Vagina and Vulva, in Women.

1911 - 1913

		All Ages	0-54	55-64	65 and upwards
Males.	Institutions	100.0	30.7	33.1	36.2
"	Private ...	100.0	24.5	29.1	46.4
Females.	Institutions	100.0	45.6	25.0	29.4
"	Private ...	100.0	38.9	25.8	35.3

1916 - 1918

Males.	Institutions	100.0	28.1	32.1	39.8
"	Private ...	100.0	23.9	30.0	46.1
Females.	Institutions	100.0	43.1	24.2	32.7
"	Private ...	100.0	38.8	26.2	35.0

Age Distribution per cent. at three age-periods of the "symptomatic" cancers comprised in the following list, viz., Brain, Intestines, and Bladder, in both sexes, together with the prostate, in Men; and the Ovary, in Women.

1911 - 1913

		All Ages	0-54	55-64	65 and upwards
Males.	Institutions	100.0	33.6	30.7	35.7
"	Private ...	100.0	18.4	26.1	55.5
Females.	Institutions	100.0	46.0	25.6	28.4
"	Private ...	100.0	23.8	25.1	51.1

1916 - 1918

Males.	Institutions	100.0	29.7	29.3	41.0
"	Private ...	100.0	16.1	26.6	57.3
Females.	Institutions	100.0	40.4	28.2	31.4
"	Private ...	100.0	23.1	25.7	51.2

To summarise these results in regard to "accessible cancers":—We note that in every case, at nearly every age-period, the death-rate per 1,000 is much more serious in institutions than in the patients' homes, in spite of the comparative diminution which must inevitably arise from improved diagnosis. Further, that in institutions some 20 per cent. less of the patients reach the age of 65. The conditions are somewhat less serious in the case of the "symptomatic" cancers, but the teaching is similar.

THE BALANCE-SHEET OF OPERATION.

It is, of course, impossible to arrive with anything approaching accuracy at an estimate of the disastrous consequences of modern practice in the domain of cancer as founded on the erroneous teaching of cancer-research. But in regard to cancer of the breast, which is claimed to be the type most suited for the study of the problems of cancer, there is a general agreement in the statistics of Switzerland and of England and Wales.

In the medical cantons of Switzerland in 1901-03 there were 100 fatal cases of cancer of the female breast in each 1,000 deaths from cancer in women in all sites, and in 1916-18 these had increased to 138, an increase of about $2\frac{1}{2}$ per cent. in each of the fifteen years intervening. The figures of the Registrar-General for the interval of 20 years from 1897 to 1917 indicate a rise in the death-rate of 49 per cent., once more about $2\frac{1}{2}$ per cent. per annum. There is an increase then of $2\frac{1}{2}$ per cent. per annum in the death-rate from cancer of the breast, the sole explanation of which appears to be misdirected surgery.

The effect of operation in its crudest manifestations is probably best appreciated in the case of a new operation such as that introduced at the close of the last century for hypertrophied prostate. The Registrar-General shows that the death-rate from cancer of this gland has multiplied tenfold; and that this increase is not due to change in nomenclature I have shown on a previous page. It is between three and four-fold as serious an increase as in cancer in all sites, a proportion which holds once again for Switzerland as for England and Wales. The figures of the Registrar-General disclose an augmentation of mortality of about 50 per cent. per annum. It is on the basis of such figures that the suggestion has been made that from 20 to 30 per

cent. of the deaths from cancer at the present time are the result of the misguided zeal of surgery.

But there is another important fact to remember, namely, that secondary cancers are between three and four times more frequently certified in connection with cancer of the breast than in the case of other cancers, the liver excepted. Cancer research supports the observation of cancer in mankind in this respect, at least, that secondary cancers are rare excepting after operation. And as secondary cancers are the chiefest cause of suffering in victims attacked by cancer, we have yet another argument against operation.

SUMMARY.

It appears to the author impossible to imagine evidence more complete in condemnation of operation and its pretensions as a rational treatment of cancer.

(1) The evolution of the modern operation for cancer of the female breast, its greater frequency, its earlier date, its wider extent, has resulted in a progressive increase in the death-rate, and a curtailment of the span of life of its victims, in spite of diminished immediate risks from the operation.

(2) Fresh surgical triumphs have been attended by rapid rise in the death-rates from cancer of the respective organs.

(3) Return to medicinal treatment has been attended by diminution not less remarkable in the death-rate from cancer of the organ in question, the thyroid gland.

(4) Propaganda in favour of operation has increased the mortality bill.

(5) Anti-operation propaganda has had a beneficent effect.

(6) The baneful effects of operation have been most marked *there*, where operative facilities are the most developed, and conversely.

(7) This is true, in spite of the improvements in diagnosis, which must inevitably have diminished the proportion of the accessible cancers in the total of one thousand cases.

It appears impossible to avoid the conclusion, not only that cancer is not at its origin simply a local disease, but that operation causes more cancer than it cures cancerous patients.

HOW OPERATION MAY INCREASE CANCER MORTALITY.

(1) It was admitted by Sir Henry Morris, since President of the Royal College of Surgeons of England, in his Bradshaw Lecture delivered before the College in 1903, that the scar of any operation might become the seat of cancerous degeneration.

(2) There has been a growing tendency these many years past to operate benign tumours lest they should undergo cancerous degeneration.

Let the reader ask himself what must be the logical consequence of the evolution of teaching, already animadverted on (page 38), in view of the light afforded by the quotations from the writings of Sir James Paget and Sir Samuel Wilks, respectively :—

“A tumour is removed which is apparently of an innocent sort; but some time after, a cancer appears at the same part. The explanation of some of these cases is, that a simple tumour has grown in a person having an hereditary or other constitutional tendency to cancer; and that in the removal of this tumour, the surgeon has unwittingly supplied, by the local injury, what was needed for the production of a cancerous growth; he has made some locality apt for the manifestation of a constitutional disease already existing.”

These words exactly express my own view, although the term, “constitutional disease,” bears in my theory a wider significance than that attached to it by Sir James Paget. Read in the light of Sir James Paget’s observation, the following quotation from a paper by Sir Samuel Wilks appears strikingly confirmatory of my contention :—

“The disparagement of the microscope has been due not so much to its occasional indecisive answers as to the fact of its denial of the cancerous nature of many growths which returned after removal or even multiplied themselves in various organs of the body with the utmost degree of malignancy.”

The case reported on page 148 is of great interest from this standpoint. This lady had an apparently insignificant tumour, which she was told was a perfectly simple matter to deal with. She recovered consciousness to find that she had been submitted to a formidable operation, but was consoled by the fact that the tumour was benign. She may have wondered at the serious mutilation under these circumstances

but doubtless felt that the operation made "assurance doubly sure." How different was the result!

A case which I have published elsewhere refers to a gentleman suffering from a parotid tumour. He was at the primary operation assured in the most categorical manner possible that the tumour was innocent. Within a year the second operation discovered one of the most malignant tumours.

• Can any unprejudiced reader doubt that the facts disclosed in the two quotations above explain the rapid rise in the death-rate?

(3) Cancers of the female breast, at least, may remain quiescent for many years, a fact admitted by all observers. Sir Astley Cooper has referred to cases of 17 and 22 years' duration, respectively. Dr. Walshe has noted cases within his own knowledge of 30 to 40 years' duration, and pointed out that even ulcerated cancer may "exercise no obvious influence in shortening life, and hardly produce more inconvenience than a perpetual issue." Mr. Travers, the distinguished surgeon of St. Thomas's Hospital, records a precisely similar opinion, and refers in particular to the following:—

"A lady now under my observation has been many years so situated, enjoying uninterrupted health, though considerably over 70 years of age. The tumour is of the size of a hen's egg, and has the genuine scirrhus character."

The operation of such quiescent cancers may be followed by the speedy death of the patient from cancer.

(4) The fourth explanation of the increased mortality from cancer in the sites most frequently operated is that the operation prevents the cure of the disease by other methods.

THE DIAGNOSIS OF CANCER.

In order to be able to estimate the effectiveness of any method of treatment applied to cancer, it is obviously necessary to have an understanding as to how cancer is to be recognised. Although this may be done by sight and touch with at least as much assurance as most other diseases may be diagnosed—probably more so—the surgeon would have us believe that the real nature of the disease is not established beyond doubt unless the microscope has furnished evidence of structure considered as typical of cancerous growths. It will be noticed that, to arrive at a diagnosis fulfilling this condition, a pre-

liminary operation of greater or less extent is necessary. But how illogical are surgical pretensions may be judged by considering the *admissions* of certain leaders of medical thought :—

(1) The late Sir A. Pearce Gould, Surgeon to the cancer-foundation at Middlesex Hospital, is reported as saying, that “ *it was quite possible that there were some conditions, which were not even yet recognised, and which might be mistaken for cancer.* ”

(2) Sir Norman Moore, at the present time President of the Royal College of Physicians of London, on the same occasion, said that “ *he did not think that it was possible to say from the microscopical characters alone, whether a tumour was malignant.* ”

(3) The “ *Semaine Médicale* ” of Paris wrote :—“ *It is but right to point out that the diagnosis of cancer—even when confirmed by the microscope—is not always to be relied on.* ”

(4) Sir Lenthal Cheatle has observed in female breasts that appeared to the naked eye normal, microscopical structures, —“ *epithelial cells in a state of marked activity* ”—regarded as typical of cancer. He admits, in fact, that the logical consequence of his discovery would be “ *that all women from 30 years onwards ought to subject themselves to this treatment* ” (*removal of their breasts*), but recognises that “ *the idea is thus rendered preposterous.* ”

In view of evidence such as now quoted (evidence certainly not adduced in order to support my point of view), what possible value can the microscope have in furnishing scientifically conclusive evidence of the cancerous nature of any tumour. It seems very difficult to understand the mentality of the surgeon who presumes to disparage the successful non-operative treatment of a tumour presenting the classical naked-eye and tactile signs of cancer, because there has been no microscopical examination of the growth, especially when one knows that such an exploratory examination involves very serious risk to the patient. Consider what Sir Lenthal Cheatle writes :—

“ It must be remembered that the condition may be cancer, and by cutting into the swelling and excising a piece of it, or by cutting the swelling out by an incision carried immediately around it, one will be courting disaster.”

Looked at from the practical standpoint of the patient's welfare, it appears to me but of small moment, whether the growth was originally malignant, or whether its site became so in consequence of the operative intervention.

“THE CAUTION AND LOGICAL ATTITUDE OF SURGEONS.”

An eminent surgeon, writing in the *British Medical Journal*, denied that a single case of cancer, whether epithelioma or scirrhous, had ever been benefited for a single day by any treatment other than operation: he vaunted the “caution and logical attitude of surgeons” in face of pretensions to the contrary.

The “caution and logical attitude” of surgery towards any comparison of operative and non-operative treatment of cancer and tumours presumed in a pre-cancerous condition, may be summed up in the homely aphorism, “Heads, I win; tails, you lose.” But where the lives and sufferings of our fellow-creatures are at stake, some other standard of reference, some other criterion, is necessary, in order to compare the relative value of operation and non-operative treatment for the cure (or failing cure, for the relief) of cancer.

How do the facts present themselves?

(1) The surgeon having failed to accept an invitation to control the nature of cases alleged to be cancer and treated successfully without operation, it is objected that there has been no such control, in the absence of which, the cancerous nature of the case must remain doubtful.

(2) If a case diagnosed by a surgeon as cancer requiring immediate operation is successfully treated without operation, then the diagnosis—the surgeon’s own diagnosis—is admitted to have been erroneous.

(3) If there had been no microscopical examination of the structure of the tumour thus successfully treated without operation, then, of course, the diagnosis of cancer was quite valueless. If there had been such an examination (in spite of the risks attending such proceeding), then the microscope was not to be trusted. What appeared to be cancer might possibly be something else (Sir Pearce Gould and the “*Semaine Medicale*”), or malignancy was not to be determined by the microscope alone (Sir Norman Moore). The surgeon unfortunately fails absolutely to appreciate the fact that this line of argument applies with exactly the same force to the occasional alleged successes following operation.

(4) If a tumour presenting microscopical characters typical of innocency is operated and cancer develops at the site of

the operation, then the operation was undertaken too late; or, it must be remembered, that in apparently normal breasts, there may be "epithelial cells in a state of marked activity"—incipient cancer, in fact. That it is the operation that is responsible for the "metastases," which invariably follow however early he operates (the actual experience of a surgeon is now referred to), never enters his mind, in spite of the observations of Sir James Paget and of Sir Samuel Wilks, already quoted on page 64.

(5) It is objected that *occasional* successes from non-operative treatment count for nothing, they are of no value whatsoever, they may be "spontaneous cures." It never occurs to the surgeon to remember that his occasional successes may be of the nature of "spontaneous cures," *in spite of his operation*. Nor does he remember the fact that everything has been done to prevent the non-operative treatment of cancerous affections. In the practice of medicine the boycott plays a part not less effective than the more startling proceedings of less sophisticated times.

Let us consider then, in their logical bearings, the admissions of certain surgeons of the highest eminence, each in his day President of the Royal College of Surgeons of England.

(1) Many breast tumours are curable without operation. (John Abernethy.)

(2) Even scirrhus cancers of the breast may remain during long years without occasioning any prejudice to the patient. (Astley Cooper.)

(3) The operation of a benign tumour may be followed by cancer at the seat of operation. (James Paget.)

(4) Depressing emotions almost certainly predispose to cancer. (John Erichsen.)

(5) The scar of any operation may become the seat of cancerous degeneration. (Henry Morris.)

(6) The operation of a cancer, the smallest he had ever seen, was followed by the death of the patient from cancer. (Henry Butlin.)

In spite of the facts above cited:—

(1) Orthodox teachers to-day counsel the most extensive operations on every woman, 25 to 30 years of age, and upwards, who may present a tumour in the breast—however innocent such tumour may appear.

(2) To attempt to treat an operable cancer without operation is denounced as "criminal," in spite of the fact, that it is admitted that cancer nowadays may be curable *after operation has failed*.

THE AUTHOR'S CRITICISM.

This is how the matter strikes the author:—

(1) If depressing emotions—and certainly the prospect of a serious operation, to say nothing of the psychical effect of the subsequent mutilation, is a depressing emotion; if the scar of any operation may undergo cancerous degeneration, then it would appear logical to avoid to the utmost all surgical intervention, excepting in cases of undisputed urgency.

(2) If a benign tumour may be cured without operation—and I can confirm the accuracy of John Abernethy's observations; if the seat of the operation of a benign tumour may subsequently undergo cancerous degeneration—the cases cited in this present essay amply confirm the observations of Sir James Paget—then it appears to the present writer but logical to treat benign tumours by constitutional methods, rather than by surgical intervention.

(3) If, on the one hand, a cancer may remain quiescent during long years, and, on the other hand, the operation of the smallest conceivable cancer may be followed by the death of the patient from cancer, owing to the pre-existence or subsequent development of "metastases," then it seems but common sense to treat the patient from the very first by methods which deal, not merely with the tumour which is recognisable, but also with the cancerous cells travelling about in the blood or lymph or deposited in the tissues.

(4) If a cancer is still curable (as is now admitted) after the malignancy of the case has been intensified by a surgical intervention, it is not quite clear why it should be "criminal" to treat a patient without first stimulating the growth into acuter malignancy.

(5) If a case of cancer may be cured spontaneously, it appears reasonable to rectify all apparent health irregularities, before having recourse to operation, in the hope that such treatment may effect the desired cure.

WHEN OPERATION IS LEGITIMATE.

The disastrous results of surgery in the domain of cancer are due to practice founded on a false theory. Briefly put, surgical theory is as follows:—A tumour is either a cancer or may become such. Cancer is a local disease at its origin. Therefore, remove the tumour at the earliest possible moment by an operation as extensive as possible. This once done the

patient is safe, provided that no metastases were already present.

The author's point of view is that an operation is legitimate only *after* a conscientious and prolonged effort to discover and treat every constitutional derangement which might concentrate itself on the site of the operation, a part, the resistance of which, is evidently diminished by the intervention, more particularly in the extensive modern operations. And such treatment should be continued conscientiously *after* the operation—indefinitely continued, if need be—on the principles indicated under the heading, "Limits of the Curability of Cancer." John Abernethy fully recognised and emphasised by his teaching the importance of a post-operative treatment of cancer, especially from the hygienic point of view.

Surgery has obviously a field of great beneficence in relieving those *consequences* of cancerous growths which immediately threaten life, such as arise from obstruction of the oesophagus, stomach, intestine, rectum, bladder and trachea. In this way time is gained which should be conscientiously used in treating the cancer by constitutional methods.

A PRACTICAL TOUCHSTONE.

The Earl of Athlone, Chairman of the Board of Governors of Middlesex Hospital, in appealing (3rd February, 1922) for funds for its cancer-foundation, stated that since 1791 it had always gladly afforded facilities to voluntary workers, and that now it had nearly 100 beds devoted to cancer operable and inoperable.

As it was a surgeon to this same cancer-foundation, Mr. Nunn, who, in his monograph, "Cancer," had claimed that its problems were most effectively studied in the female breast, I made the following proposition to Lord Athlone: That I should first produce satisfactory evidence that I had cured, without operation, cases of cancer of the female breast; that thereafter, in cases diagnosed by the surgeons of the hospital as cancer of the breast necessitating operation, I should be allowed, *where the patient so desired*, to treat her without operation.

In this way, all controversy as to diagnosis would be excluded, as the diagnosis of the surgeon would be accepted, and time alone would settle the question of the comparative value of the two methods of treatment.

The Committee of Cancer and General Research—without accepting my suggestion of a personal interview—refused my request, 28th February, 1922, this Committee apparently possessing the administrative functions that I had supposed vested in the Board of Governors.

My first letter to Lord Athlone, who treated me throughout with the utmost courtesy, was answered, on his behalf, by Dr. Lazarus-Barlow, Professor of Experimental Pathology, who, on the 7th February, 1922, wrote as follows:—

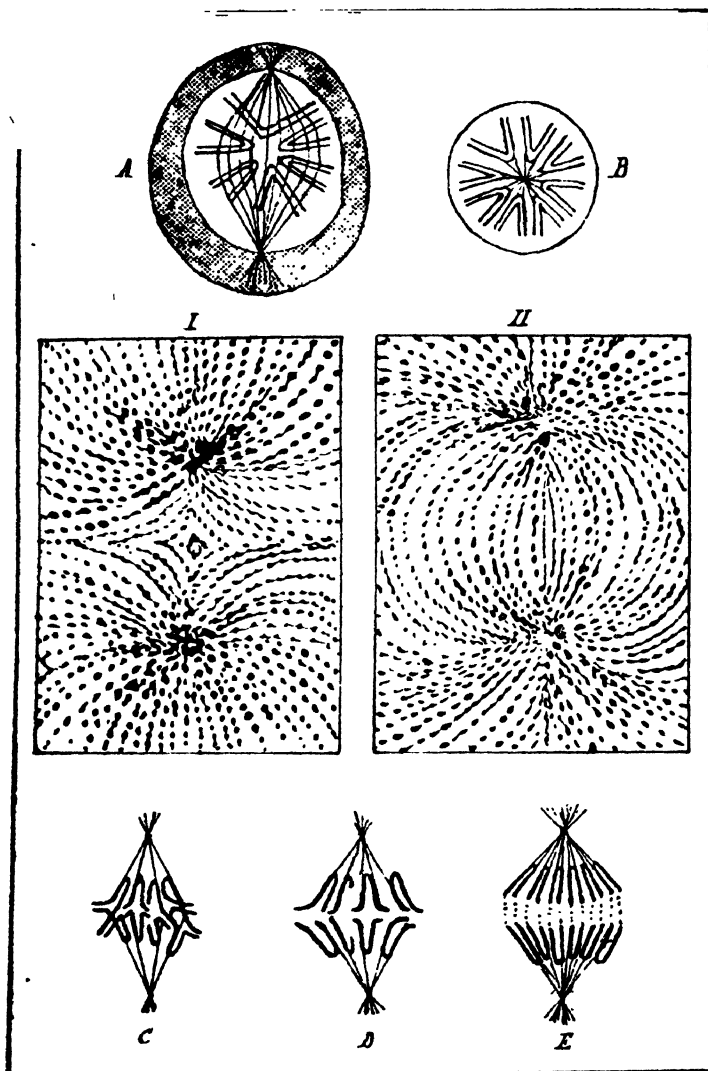
“Some of your conclusions or propositions, I, and I
“take it a majority of medical men, would subscribe to,
“but in the cases of others, there is so wide a divergence
“of view held, and conscientiously held, that it is difficult
“for us to find a common working ground.

“In particular, your view that modern operation is
“not an effective treatment would be met, as of course
“you will allow, with strenuous objection on the part of
“many. The difficulty is to know what is an ‘effective
“treatment.’”

Of course, I admit that “it is difficult for us to find a common ground.” Nay, I will go farther, and admit that it is impossible. Nevertheless, I think the decision of the Committee extremely regrettable, for there are cases of cancer of the breast which surgeons recognise as unfavourable for operation. Sir Lenthal Cheatele admits, for example, that if, in a case of a single tumour of the breast, there are, in addition to retraction of the skin and flattening of the curve of the breast over the tumour, enlarged, hard and discrete glands in the armpit or over the collar-bone, the diagnosis is easy—*the tumour is a cancer—and the prognosis of extreme doubt.* Does it not seem to be merely a question of the simplest humanity that non-operative treatment should be tried—if the patient desire it—when the surgeon admits that her chances from surgical intervention are but very small?

There is no need for one million pounds annually for research, for the actual curability of cancer has already been abundantly demonstrated by myself and others. What is needed is a well-managed hydro, where those of modest means should be admitted at nominal cost, and those of large means should pay commensurately. Such an undertaking ought from almost the first week to pay a reasonable return on the outlay, and be free from all suspicion that philanthropy is but a cloak for ingenious advertising. Are there no philanthropists or capitalists who will undertake such a work, and undertake it without loss of time?

Plate 3.



CANCER THEORIES.

THE AUTHOR'S THEORY OF CANCER, from the Standpoint of Science.

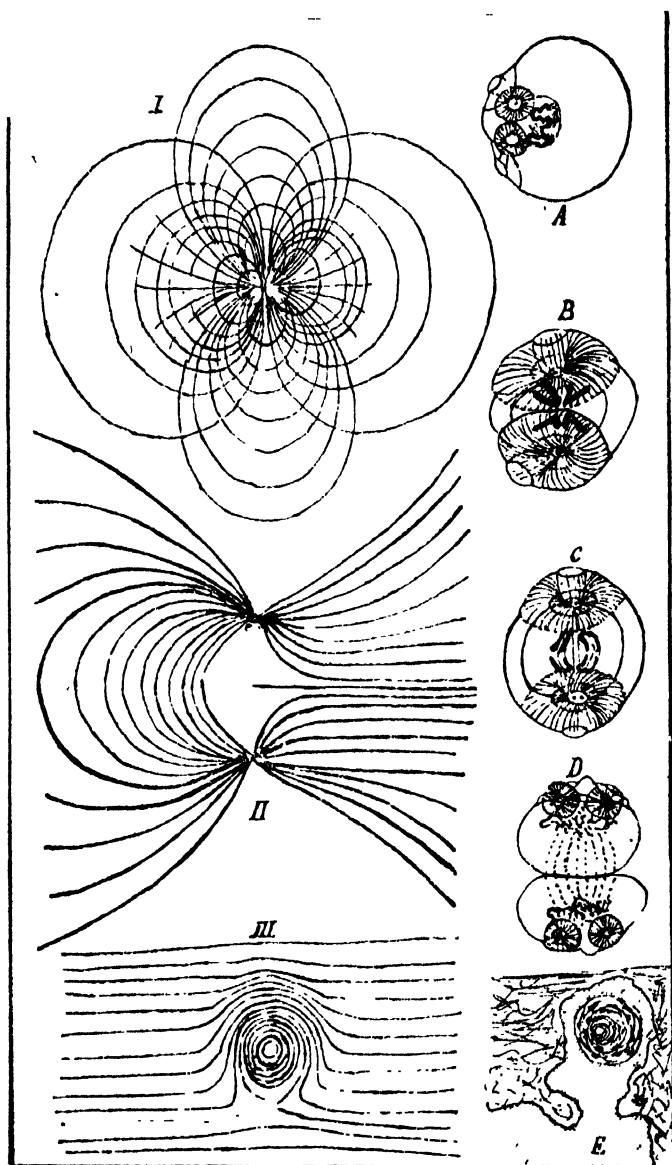
The essential idea of the author as presented in his pamphlet, first printed in 1906, "Cancer: A Working Theory for its Prevention and Cure," is that life, in its physical manifestations, stands in line with all the great forces of Nature—light, electricity, heat, etc.—and that cancer is due to a "dyskinesia," that is to say, a vital vibration in the part affected, which is not in harmony with its surroundings. This theory is by no means of merely "academic" interest as affording an explanation of the beneficial action of heat, electricity, X-rays, and radium in the treatment of cancer. What are all remedies, whether of animal, vegetable, or mineral origin, but bottled-up vibratory energy which had its primary origin in the sun? We know that the action of allopathy and homeopathy may both be illustrated by the laws relating to light.

Completeness is essential to harmony, whence it results not only that every mutilative operation must inevitably predispose to cancer, but that a deficiency in any of the natural constituents of the body may disturb harmonious vibration, and so—according to my theory—excite cancerous degeneration. The theory, therefore, explains why thyroid extract, soap, bile, and pancreatic ferments have one and all proved remedies in certain cases of cancer. It is obvious that iodine, sulphur, lime and iron may likewise be remedial for similar reasons; perhaps also arsenic, copper and zinc. The theory indicates, therefore, a very profitable line of more complete enquiry.

The theory of vibration accounts for the specific action of certain remedies on certain organs and explains how remedies applied to the surface may have a corresponding action on internal organs through the intermediary of corresponding nerve supply. It explains how the products of defective metabolism, of germ activity, or of tissue degeneration, concentrated on a part, the resistance of which has been enfeebled by any cause, may—in producing a "dyskinesia"—initiate the cancer-cycle.

"Dyskinesia" accounts for the sites occupied by cancers over branches of superficial nerves. The analogies of the

Plate 4.



chemistry of photography and of cancer are rich in suggestion, not merely as to the causes of cancer, but also in relation to its treatment. The reader, to whom this line of thought appeals sufficiently to consult the pamphlet above cited, will probably agree that three apparently different lines of treatment for cancer recently advocated, viz., animal extracts, vibration and dyes, are but part and parcel of one whole, viz., that advocated under the theory of "dyskinesis."

In Plates 3 and 4 (pp. 72 & 74), there may be seen in apposition the nuclear threads (mitoses) of cells in course of reproduction, and lines of magnetic force as displayed by the ordinary methods in vogue. As seen in Plate 4, there is an almost startling resemblance between the lines of magnetic force in the case of a buried magnet (*Enc. Britann.*, Ed. IX., Vol. 15, p. 23 *et. seq.*), and the arrangement of the cells in a so-called "bird's nest" of epithelial cancer.

A letter from Professor J. Joly, F.R.S., of Trinity College, Dublin, published in the "*Times*" of 3rd June, 1922, should excite interest in the theory first printed early in 1906. The material parts of Professor Joly's letter are as follows:—

"Some years ago, writing on the subject of the radiative treatment of malignant disease (*Nature*, June 10th, 1915), I was led to the view that there was much in common between the reaction of the cell to radiative treatment and the behaviour of those photo-sensitive substances which form the basis of photographic action. This cannot be entered upon here; suffice it to say it seemed a not illogical inference that the increase in malignant disease might be ascribable to such articles of diet as contain substances having the properties of 'sensitizers.'

"Pre-eminent among these substances is tannin, which enters largely into the constitution of tea and coffee. It is a fact that the mortality from cancer in recent years rises along with tea consumption in this country. I think medical men would admit in some cases evidence for a connection between excessive tea drinking and certain cases of cancer. I have now in mind a case recently occurring in this city. Again, to tobacco smoking mouth-cancer has before now been ascribed. In this case the evidence seems very clear. Powerful 'sensitizers' are here again involved.

"That the increase in cancer cases is real is now admitted. Sir William Veno is, I believe, justified in ascribing it to 'civilization' meaning thereby our habits and dietary. But I believe on full consideration this narrows down mainly to the latter."

In view of Prof. Joly's letter, certain extracts from my pamphlet already cited should prove of interest :—

The Prevention of Cancer.

“ If the habits of the people be judged by the standard of the ‘ Statistical Abstract of the United Kingdom,’ and these be collated and compared with the statistics of births, marriages, and deaths to be found in the corresponding reports of the Registrar-General, and the information thus obtainable be further supplemented by the occupation-mortality statistics, for which we are also indebted to our General Register Office, results of engrossing interest will be forthcoming. Unless someone else, in the meanwhile, carries out such a work, I shall hope to publish the conclusions arrived at from the study of the returns for the last quarter of a century. For the moment, I content myself with saying that that period of twenty-five years shows an increase of stress, luxury and degeneration advancing hand in hand. Cancer is a disease of degeneration, and that degeneration, to a greater or less degree, it is within our hands to accelerate or retard, to promote or restrain. On the basis of the documents above quoted, as confirmed by clinical experience, I submit that the causes of cancer are to be found (excluding local irritation, injury, and operations) in the following factors :—

(1) Deficiency of fresh air, pure water, and adequate exercise, with the resulting tendency to imperfect excretion by the kidneys, the skin and the bowels.

(2) Deficiency of vegetables, especially of those containing sulphur, such as onions, leeks, garlic, etc.

(3) Excess of animal food (nitrogenous foods rich in phosphorus) in the shape of meat (both salted and fresh), cheese, eggs, etc.

(4) The abuse of alcohol, tea, tobacco, and drugs such as phosphorus, opium, cocaine, and the coal-tar products (anti-pyrine, antifebrin, phenacetine, sulphonal, etc., etc.).

(5) Irregularity in sexual relations.

(6) Excessive mental or emotional strain.

(7) Inherited tendencies to degenerations.

The Cure of Cancer.

In dealing with the curative applications effective in the treatment of cancer, as an outcome of my theory of vibration, I discussed the analogies between the chemistry of photography and of cancer in the following passage :—

“ Even at the risk of appearing fanciful I must point out the striking analogy, as it appears to me, between the processes of photography and the cancer process. In the one, an exposed portion of a sensitized plate is energized in a way still undefined (unless my suggestion as to cancer vibration is actually applicable to the sensitized plate), and in consequence, under the influence of an easily oxidizable substance, interchanges take place between the part so energized and the deeper parts of the film, with a resulting progressive reduction and deposit of metallic silver, thus producing the visible negative. In cancer, a cell which up to that time had remained dormant, under the stimulus of a certain environment, develops out of all proportion to the normal tissues of the host. I note with interest that the undeveloped exposure of the sensitized plate (the latent image) may be discharged by means of peroxide of hydrogen; and if I had to put the cure of cancer into one word, I would say, ‘ OXYDATION.’

“ I should like to point out that ferric oxalate is an important ‘ sensitizer ’ in photography. Oxalates in the urine have for many years appeared to me indications of the mis-directed metabolism which is all important in conducing to the environment necessary to initiate the cancer cycle.

“ I would also draw particular attention to the fact that after the exposure of a carbon film the intensity of the latent image increases even in the dark, so that if development is postponed the effect produced is that of over-exposure.

“ ‘ Developers ’ are always present as products of metabolism. Even urea, I understand, will act as a developer. But in the conditions of the ‘ cancer environment ’ such products of the disintegration of albumens become greatly in excess; as, for example, leucin, tyrosin, and glycin.

“ The alkalies are amongst the best known photographic ‘ accelerators,’ and their influence in cell reproduction will be almost immediately referred to, the characteristics of cell division under such influence closely resembling that observed in cancer. I would also specially direct attention to *acetone*, a photographic accelerator which is found in the blood of patients suffering from diabetes, a disease in the most intimate relationship with cancer.

“ There are other bodies the action of which is to hinder these processes, and such are known as ‘ restrainers.’ The chief of them are the bromides, the citrates, and cane sugar. I draw attention to the fact that Shaw-Mackenzie, from a totally different set of facts, concluded that excess of cane sugar in diet was desirable in cancer; that citrates constitute

an important element in that fruit and vegetable diet which seems to me so important; and that bromides are the best known remedies for controlling nervous irritation.

“ Photographic ‘ fixers ’ are those which stop the developing process. The principal member of this group is ‘ hypo,’ a sulphur-sulphate of soda (sodium thio-sulphate). I have had good results, apparently, from the administration of sulphur in this form: and have been particularly interested at learning of the disappearance of a gastric tumour under the hypodermic administration of the photographic ‘ fixer,’ thiosamine, an organic sulphur compound prepared by the action of ammonia on oil of mustard.

“ Photographic ‘ reducers,’ I would note, are, *ipso facto*, strongly oxidizing reagents, and, so far as my present purpose is concerned, I will confine myself to the mention of *Iodine*, which I regard as a most useful drug in cancer when administered as Iodipin.

X-Rays.

“ The theory of disordered vibration as the essential of cancer is further supported by the known effects of successful treatment for this disease. Just as one tuning-fork may silence another of equal pitch, and a piano string at rest will vibrate to its own note if that note be sounded in its neighbourhood, so X-rays may cure existent cancer or excite cancer in tissues previously healthy.

The Constant Current.

“ Vibration is a theory which explains my observations on the action of the constant current, and confirms the successes which have attended its employment in the treatment of cancer. In 1888 I read before the Obstetrical Society of London a paper which is published in their Transactions under the title of ‘ The Constant Current in the Therapeutics of Gynæcology,’ in which I showed the destructive action of the positive pole on cellular structure, and expressed the hope that herein lay the means of the cure of cancer which was beyond the reach of the knife.”

In my paper just referred to I showed experimentally that the acidity of the positive pole, and the alkalinity of the negative pole, extend inwards towards a neutral point in the inter-polar region, a fact which had up to that time, I believe on the authority of Faraday, been denied.

Other Therapeutic Measures.

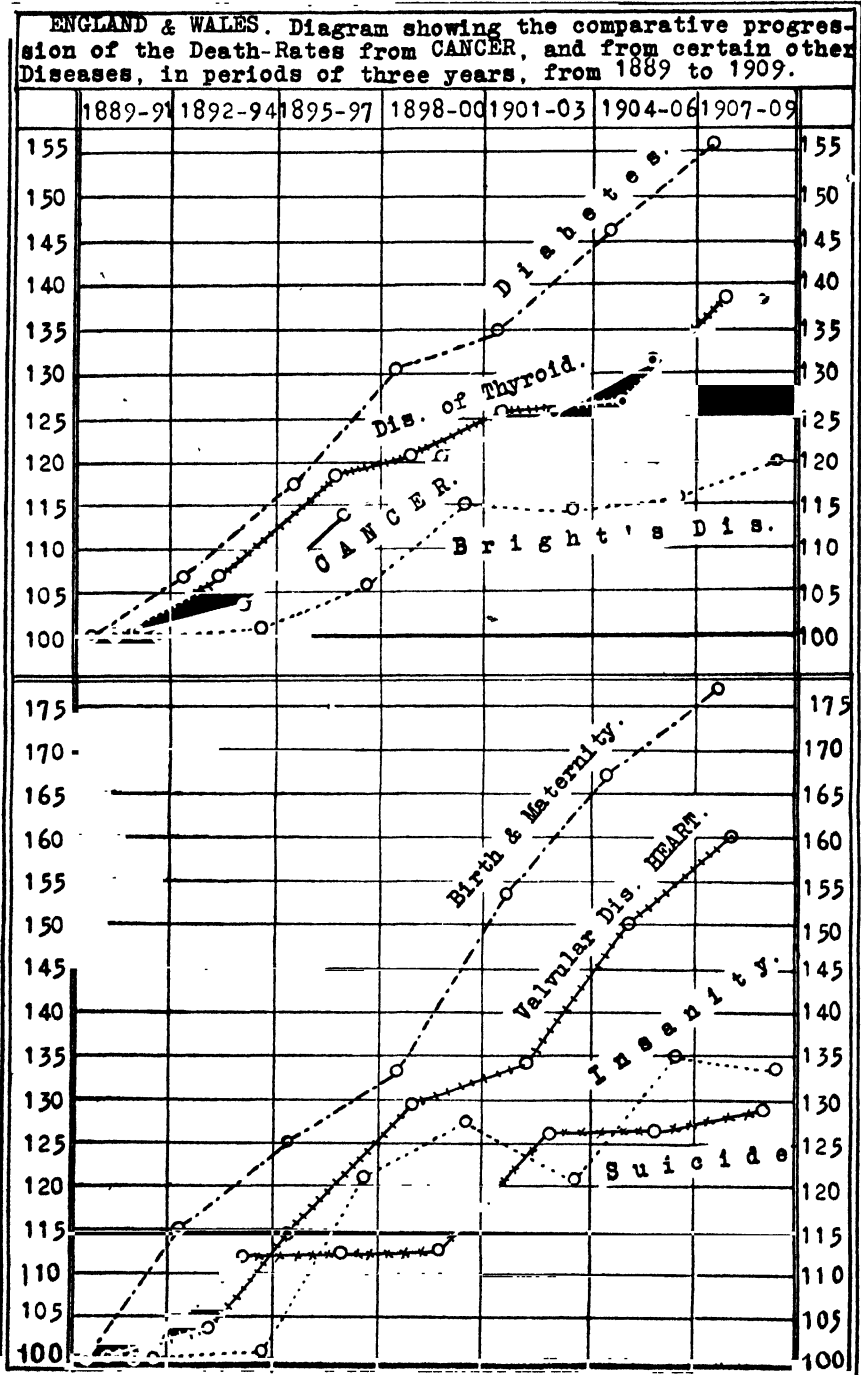
"With regard to the means of improving the reactive tendencies of the normal tissues, with a view to increase their resistance to the invading cells, the lines of treatment are two-fold, viz., general and local. Everything which improves the general health of the patient must be brought into requisition, and of such means there are few to equal—and probably none to excel—high-frequency currents. With regard to local stimulation, the essential oils, which differ so little from one another in chemical composition, furnish means of specifically affecting most (if not all) of the tissues of the body. Thus, cubebs has a specific elective affinity for the bronchial and urinary mucous membranes, turpentine for the kidney tissue, and savin for the uterus. Therapeutics have, therefore, a very wide field of interest in the treatment of cancer."

Shortly after the publication of Prof. Joly's letter in the *Times*, the *British Medical Journal* published a leading article on cancer in which it was suggested that its problems might be solved on lines similar to those indicated by Prof. Joly rather than on those of cancer-research as generally understood. It is difficult for me to understand how Prof. Joly's suggestion carries the question any further, if as far, as did my pamphlet, "Cancer, a Working Theory for its Prevention and Cure," published in 1907 (first printed in 1906) which duly found a place in the library of Trinity College, Dublin. Prof. Joly, it is true, has not the disadvantage of being a medical man with an unwelcome message. He obtains, therefore, an unprejudiced hearing. And this is the great desideratum.

The short article in the "*Times*" by the Medical Correspondent at the beginning of June, 1922, opens up another interesting souvenir of my pamphlet. He drew attention to the fact that blood-vessel disease was increasing *pari passu* with cancer, although he was not prepared to offer an explanation of fact. Turning once more to my pamphlet, the following lines may be quoted from page 18 as follows:—

"If a cell is vibrating at a normal rate, and an abnormal constituent is introduced thereinto, it is obvious that the molecular contents of that cell can no longer vibrate in the same manner as before, either the frequency or its amplitude of vibration, or both, must be affected. Thus it is that the rheumatic poison, the gouty poison, and perhaps, others, act as excitants of cancerous degenerations. If the table on page 25 be consulted, it will be seen that the increase of cancer has progressed *pari passu* with the other diseases of degeneration;

Diagram 15.



- and further, if the tables of the ' Statistical abstract for the United Kingdom ' for the 30 years ending 1902, be consulted, it will be seen that such increased degenerations have been co-incident with an enormous increased consumption of animal foods, both fresh and salted, tea, tobacco, beer, opium, and ' unenumerated drugs,' all of which tend to the processes of degeneration, or diminished excretions.

" I was not aware, when writing the above, that the addition of wax to the prongs of a tuning fork is the actual method employed when it is desired to throw that fork out of unison with another fork, in order to study the phenomena of discord. The science of acoustics, indeed, seems to afford, not only substantial support to the theory enunciated, but also furnishes valuable suggestions for the application of that theory to practice."

The table on page 25 contained the following details:—
ENGLAND AND WALES.—Comparison of the percentage increase of annual death-rates from various causes to a million living in groups of years 1882—1886 and 1897—1901. Males and females.

Causes of Death.	Males.		Females.	
	Increase per cent.		Increase per cent.	
Cancer	65.58	.....	34.33	
Alcoholism	65.07	.....	125.62	
Acute Nephritis, Uraemia....	36.01	.....	38.46	
Chronic Bright's Disease, Albuminuria	21.43	.....	24.21	
Diabetes Mellitus	40.78	.....	80.95	
Disease of Thyroid Body ...	75.00	.....	152.94	
Rickets	100.00	.....	85.41	
Gastric Ulcer and other diseases of the Stomach	51.90	.....	70.43	
Appendicitis and other dis- eases of the Intestines...	253.31	.....	210.04	

We are now in a position to understand that disease of the blood vessels and cancer are both on the increase, because both are predisposed to by Alcoholism, Bright's Disease, and Diabetes Mellitus.

Statistical diagrams were first published by the author in 1908, and those in 1912 are reproduced on pages 80 and 112.

Plate 5, which displays the segmentation of a fertilized ovum, is introduced in order to show that the rapidity of the cellular proliferation resulting in the formation of the three primary membranes occurs with different rapidity in each,

Plate 5.

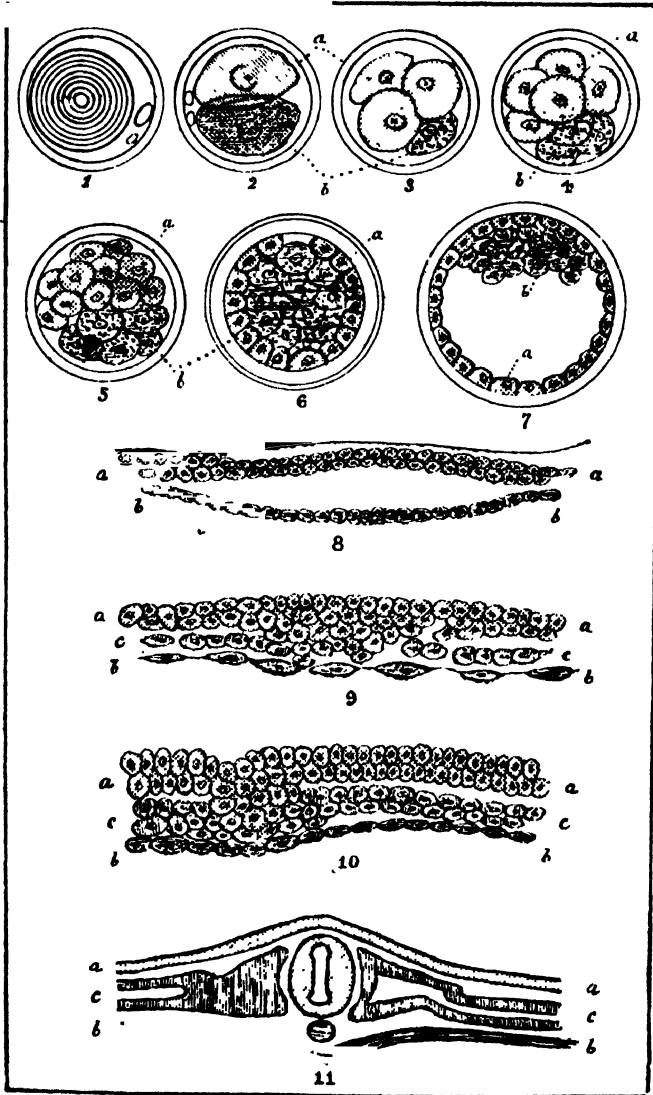


Plate 6.

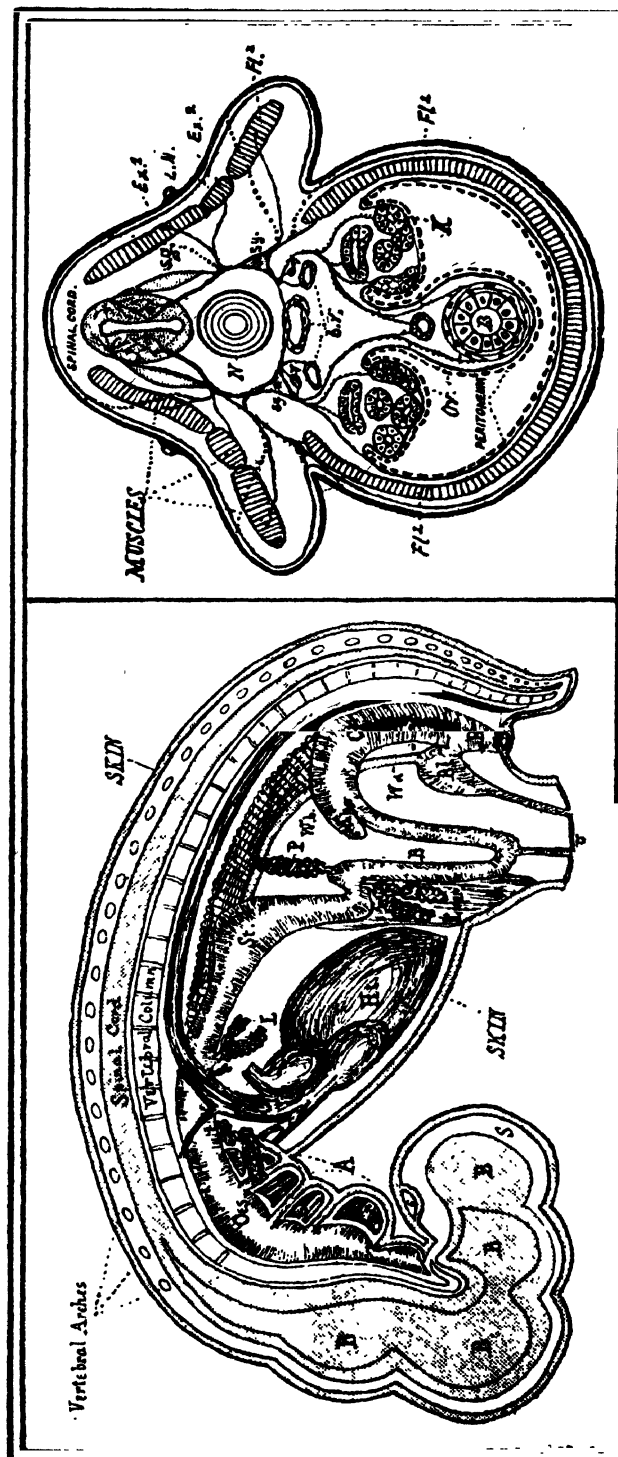


Fig. 1.

Fig. 2.

whence it is surmised that the vibratory energy (according to my theory) must likewise vary in the three membranes. Plate 6 displays a diagrammatic plan of an early embryo which shows that at the branchial arches and at its lower extremity the inner and outer membrane come together without the intermediary of the middle membrane, whence it is surmised that in this fact (viewed in the light of my theory) the peculiar liability to malignant disease in these situations is to be explained.

The second diagram in Plate 6 is rich in teaching. It represents a transverse section of an embryo and explains to us why internal organs have their areas of corresponding sensibility on the skin, as has been proved by the invaluable work of Dr. Henry Head. My theory, however, further explains why remedies applied to the exterior may have a like action on internal parts, although between the two there is no bond of union excepting the nerves. One understands further how the nutrition of internal organs may be influenced by the exercise of voluntary muscles and explains the ill effect on cancer patients of muscular exertion sufficient to induce exhaustion.

If from the chemical standpoint *oxidation* is the key to the cure of cancer, from the clinical standpoint *venous congestion* (as we shall see later) may be regarded as its ultimate cause. This diagram, therefore, which illustrates the nervous connections between voluntary muscles and the musculature of the internal organs and the blood-vessels, becomes of enormous interest and importance. We can understand why graduated exercises (as in the Nauheim treatment) strengthen the heart; why the muscular movements of careful mastication may have similar beneficent effect; why alternate movements of flexion and extension and breathing exercises promote the circulation; why the constant electrical current may exercise a curative influence even in internal cancers. And, on the other hand, why strain, such as the gymnastics employed sometimes to liberate the arm after a modern operation for cancer of the breast, may have such a disastrous effect in determining a relapse.

As providing an indication of the direction in which to prosecute clinical enquiry, statistics of mortality are truly eloquent, so just is the motto, "*Nec silet Mors,*" for even Death is not silent.

THE AUTHOR'S THEORY OF CANCER, from the Standpoint of Vital Statistics.

Statistics are expert reports from Nature's laboratory of the experiments made by Society on millions of men and women under varying conditions. Dr. Louis GUILLAUME, late Director of the Swiss Statistical Department, introduced in 1876 a system of registration which has furnished the model for all other countries. The registration of the causes of death according to cantons, sex and age, has made comparative analysis possible in relation to some two dozen rubrics of cancer, over this considerable period of time. The innovation introduced already in 1891 of registering all deaths according to the *canton of residence* was too long unappreciated by other statisticians, although of supreme importance. The Annual Reports of the Registrar General for England and Wales and the Decennial Supplements also furnish data of incalculable value, as does the *comparison* of English and Swiss statistics. From these sources I have obtained the information which is briefly summarised as follows:—

(1) Cancer is not a disease of old age, as such, but of the degenerations which are more or less inevitable as age advances, but may occur at any period of life, and are for the most part avoidable. Cancer is, therefore, a disease which may be prevented.

(2) Cancer is on the increase. It is not merely a question of *apparent* increase owing to improved diagnosis and registration, but of *real* increase owing to increase of its causes.

(3) In order to understand those causes, it is necessary to recognise that it is not a question of CANCER, but of many cancers which are essentially different, according as they affect different organs, at different periods of life, in one or other of the two sexes respectively. Cancer of the female breast, for example, in the prime of life differs widely from the same disease in advanced age.

(4) The age-distribution of cancers frequently shows, however, that there is a relation between organs of similar embryonic origin. Sarcoma (of mesoblastic origin) is more predominant in early life than carcinoma, a disease principally of advanced years; and of the carcinomata, those of hypoblastic origin occur in greater proportion at an earlier age than those derived from the epiblastic membrane, the death-rate from which reaches its maximum only in extreme old age.

Diagram 16.

[illegible]

(5) The influence of sex is apparent long before there is any development of sexual function. The latter has most important influences on cancer of the sexual organs in women, and accounts also for the large excess of cancers of the liver, intestines and peritoneum in this sex.

(6) The influence of early sexual life is to be traced in the cancers of many organs, where such influence would be but little expected; in the stomach, pancreas and bladder, already from 20 to 35 years of age; in the œsophagus, pharynx, larynx, tongue, mouth and rectum, from 25 to 35. Sexual irregularities constitute, without doubt, an important cause of cancer.

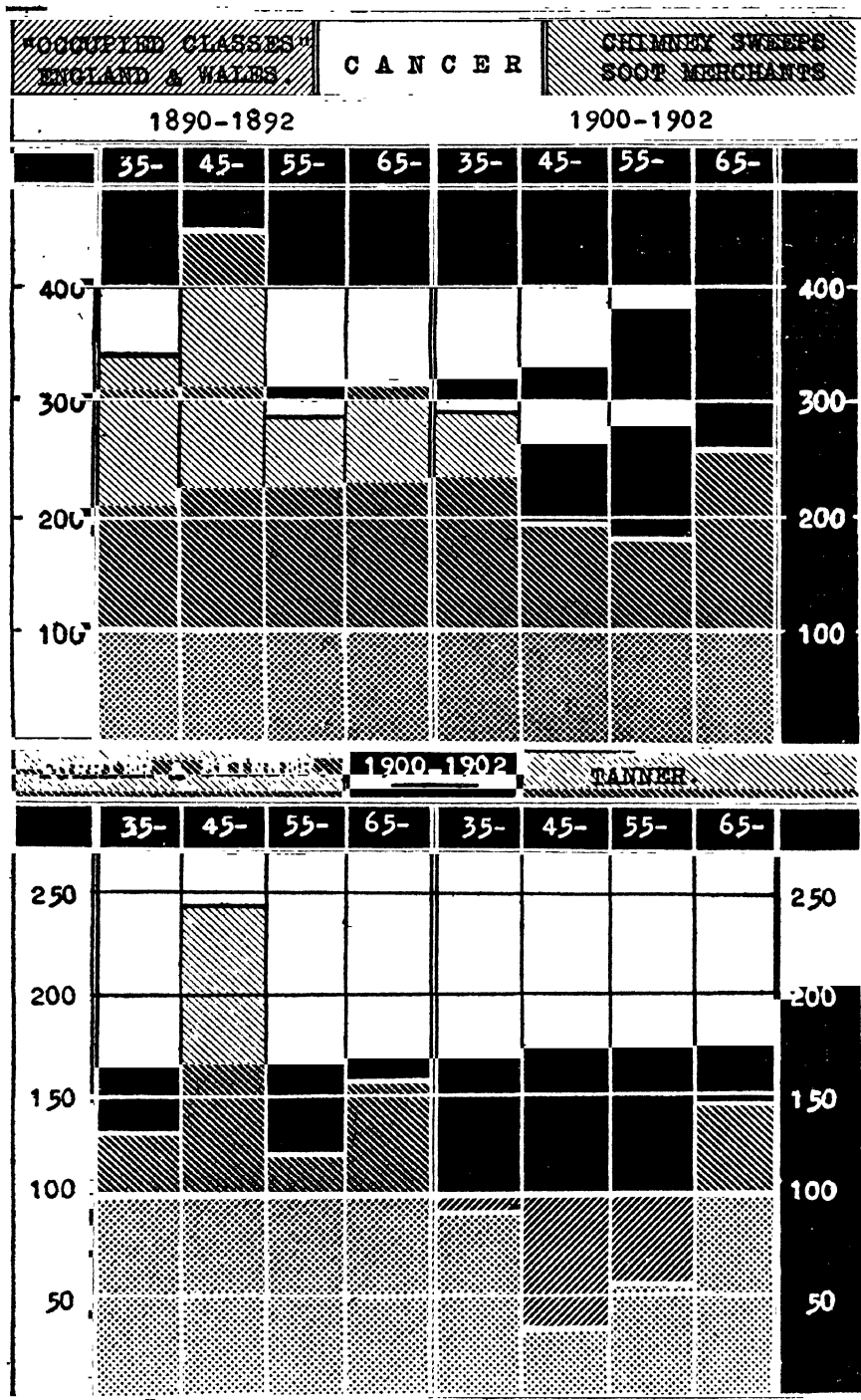
(7) Special influences tend to the maximum production of similar cancers earlier in one sex than in the other. Thus the death-rate from cancer of the peritoneum and of the kidneys with suprarenal capsules reaches its maximum a decade earlier in women than in men, whilst the converse is the case for the tongue, pharynx, œsophagus and stomach, probably as the result of the excessive indulgence in alcohol and tobacco, on the part of men.

(8) For the production of cancer a preliminary weakening of the part affected is a necessary antecedent. Such weakening may be caused by violence of many kinds (probably more frequently by strains than by bruises), by acute or chronic inflammation, by chronic irritation (of the tongue by a broken tooth, for example), or by toxic influences, such as may arise at any mucous surface from catarrh or otherwise.

(9) In the presence of such weakened resistance many diseases may excite that cellular proliferation which initiates the cancer cycle. For example, the cancers which, comparatively speaking, predominate before 10 years of age, viz., those of the brain, globe of eye and orbit, skull and kidneys (with suprarenal capsules), doubtless owe their origin to damage resulting from difficult birth, on which some catarrh, or congenital syphilis, has been grafted.

(10) The principal diseases associated with cancer are syphilis, anæmia, rheumatism, gout, diabetes, tubercle, diseases of the heart and blood vessels, and urinary disease. But diseases of the nervous, digestive and respiratory systems (imperfect ventilation or vitiated atmosphere is often the cause) also furnish their quota. Of these, heart disease is the most important, valvular disease in earlier life (especially in women) and fatty or feeble heart in later life (most frequently in men). In women it is venous stasis and thrombosis which are especially important factors; in men, disease of the arteries. Bright's

Diagram 17.



disease is much more pronounced in old age in men than in women, but in cancer of the sexual organs it plays a more important part in women earlier in life. Rheumatism predominates in women and gout in men. It is in the female sex that cholelithiasis plays the more important part, as does anæmia.

(11) The toxins arising from decayed teeth and constipated bowels are also effective causes of cancer, but abuse of alcohol—and especially excessive beer-drinking—is probably responsible for more cancer than almost any other of its causes—at least, in the case of men.

(12) Statistics show that not only is there a high mortality from cancer in those occupations where there is extra liability to indulgence in alcoholic beverages, but that butchers have a high cancer-mortality as age advances, and bakers and confectioners until 65 years of age. There is an excess in fruiterers until 55, probably on account of the temptation to drink at early markets. There is a high cancer mortality in certain occupations, such as chimney sweeps and spot merchants, workers in paraffin and tar, as well as tallow-smelters. Agricultural pursuits favour a low cancer mortality, as does tanning. Grocers suffer comparatively little from cancer. (Pages 86, 88.)

Some of the items above summarised have already been dealt with in submitting the evidence adduced in refutation of the teaching of the I.C.R.F. To prove my case will, therefore, entail a certain measure of repetition.

Diagram 18.

INTERNATIONAL COMPARISON OF CANCERS.

100 Cases of Cancer at each Age-period.

[illegible]

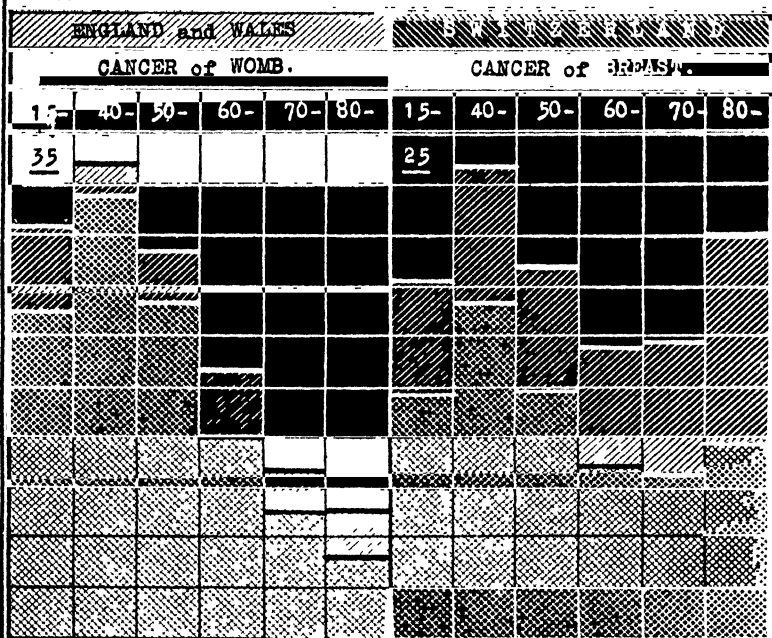
C A N C E R i n S W I T Z E R L A N D , 1 9 0 1 - 1 0

ALL AGES	-1	1-	5-	15-	20-	30-	40-	50-	60-	70-	80+
7.											

Diagram 19.

INTERNATIONAL COMPARISON OF CANCERS.

Per 1000 fatal Cancers at each Age-group in Females.



Per 1000 fatal Cancers at each Age-group. in each Sex

CANCER of the STOMACH.

MALES.

FEMALES.

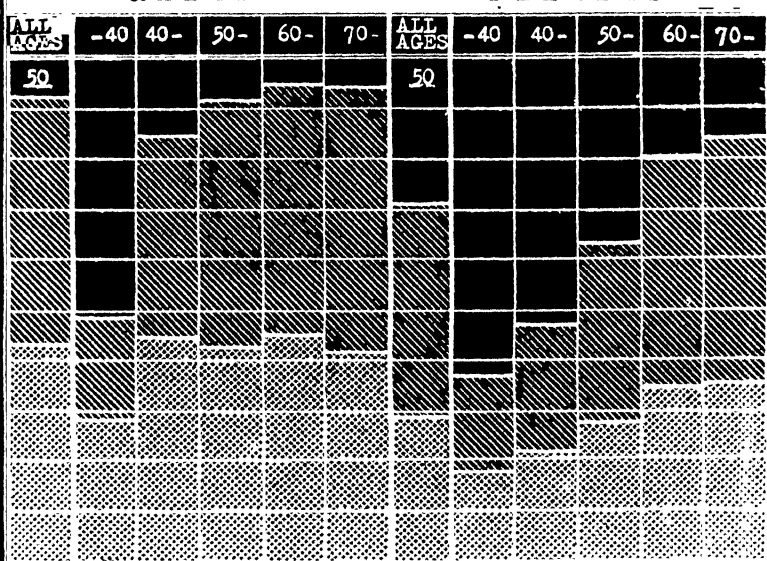


Diagram 20.

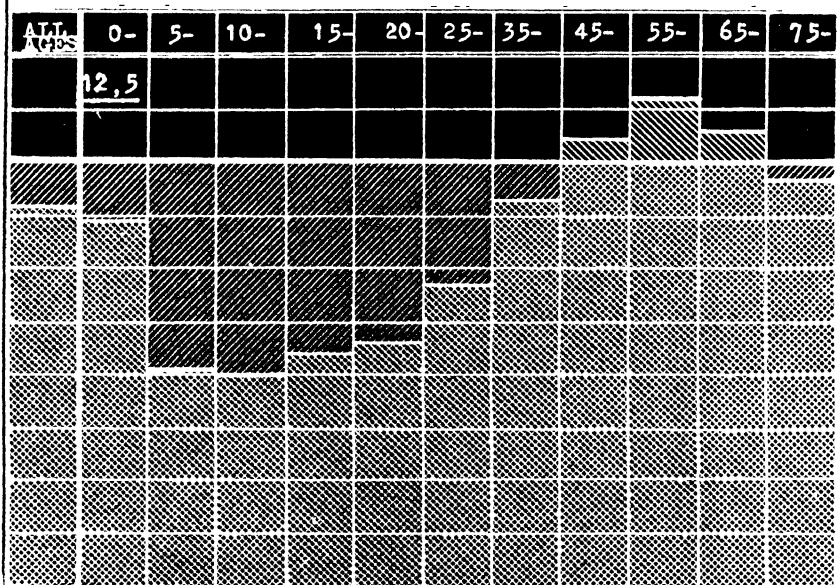
"ALL CAUSES," ENGLAND and WALES.

Progression of Death-Rates.

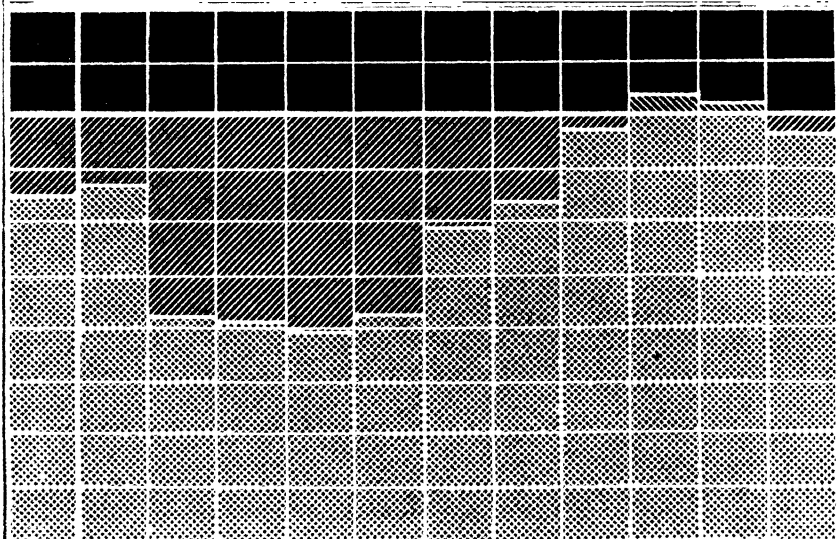
1861-1870

1891-1900

M A L E S.



F E M A L E S.



Cancer a Disease of Degeneration.

Reference to Diagrams 3 and 5 on pages 16 and 20 shows clearly that the minimum mortality is not at the earliest age-period nor the maximum at the most advanced age, and that in the interval the maximum death-rate falls in different decades from 55—65, onwards.

Diagram 4 on page 18 demonstrates that the excess of cancer mortality during the first five years of life is associated with the excessive morbidity which characterises that period as evidenced in the high death-rate. If we compare (Diagram 6 on p. 22), the comparative mortality from cancer and from "all causes," whether in groups of maximum, medium, or minimum mortality from cancer, or in groups according to districts (London, Industrial, and Agricultural), we find the closest relationship between the death-rate from cancer and from "all causes" at every age-period.

We are met, however, with what appears a contradiction of this position in the fact evidenced in Diagram 4 on page 18, that the death-rate from all causes in men is higher, and the cancer death-rate lower, than in women. If we refer to Diagram 18 on page 90 we see that in England and Wales there is an excess of cancer mortality in males until 25 years of age, a fact which holds good in Switzerland until 20 years of age. Thereafter there is in England and Wales a large excess of cancer mortality in females, whereas in Switzerland, between the ages of 50 and 70, the excess is in the male sex. These facts teach lessons of the greatest moment.

(i) The excessive mortality from cancer in women is due to cancer of the female sexual organs, the ovary, uterus, breast, and external genitals. If these be abstracted there is a great excess at every age-period in cancer mortality as well as in general mortality in males. (See Diagram 4 on page 18.)

(ii) The variable excess of cancer mortality in women as compared with men, in Switzerland and in England and Wales, respectively, is to be explained by the much greater prevalence in England and Wales of cancer of the womb and cancer of the breast, as may be judged on considering the upper part of Diagram 19 on page 91. The lower part of the same diagram explains why cancer mortality in males in Switzerland becomes more prominent between the ages of 50 and 70 owing to the excessive mortality from cancer of the stomach (and to a lesser degree from cancer of the œsophagus). Herein we have further evidence of the dependence of cancer on morbidity or

Diagram 21.

INFLUENCE OF SEX.

Death-rates per Million: Quinquennia, 1881-85 to 1906-10

[illegible]

degeneration. In England and Wales the general mortality from disease of the female organs of generation is more pronounced than in Switzerland, being just double (0.08 to 0.04), whilst diseases of the digestive system are much more often fatal in Switzerland than in England and Wales in both sexes (in males 2.21 to 1.25, and in females 1.74 to 1.14).

• In arguing that cancer was not a disease of old-age, as such, it was pointed out (page 23) that a comparison of the sexual distribution of cancers showed that excessive tendency to certain cancers in one or other sex was associated with a maximum death-rate at an earlier age-period, suggesting that morbid factors at work not only caused an exaggeration of the death-rate, but precipitated the fatal issue.

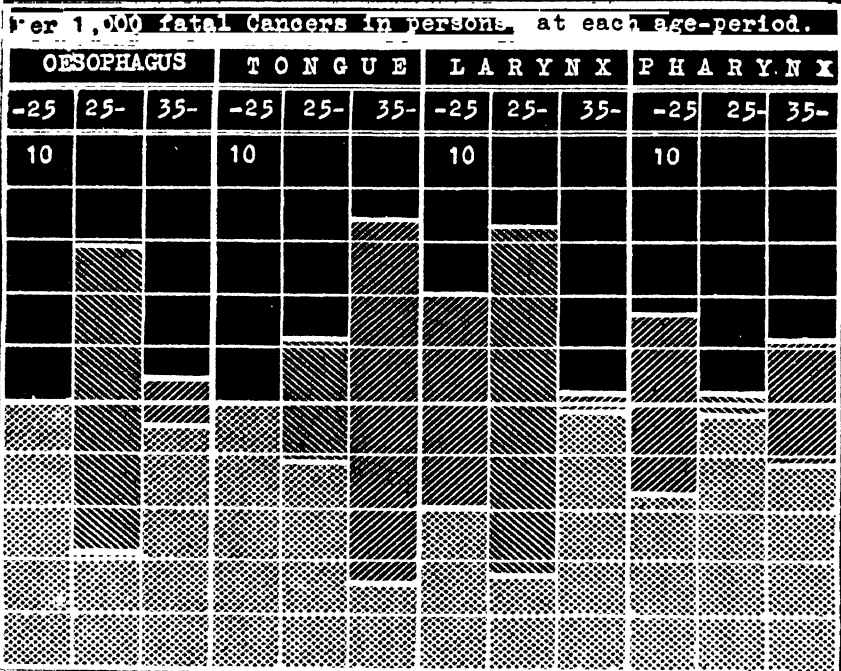
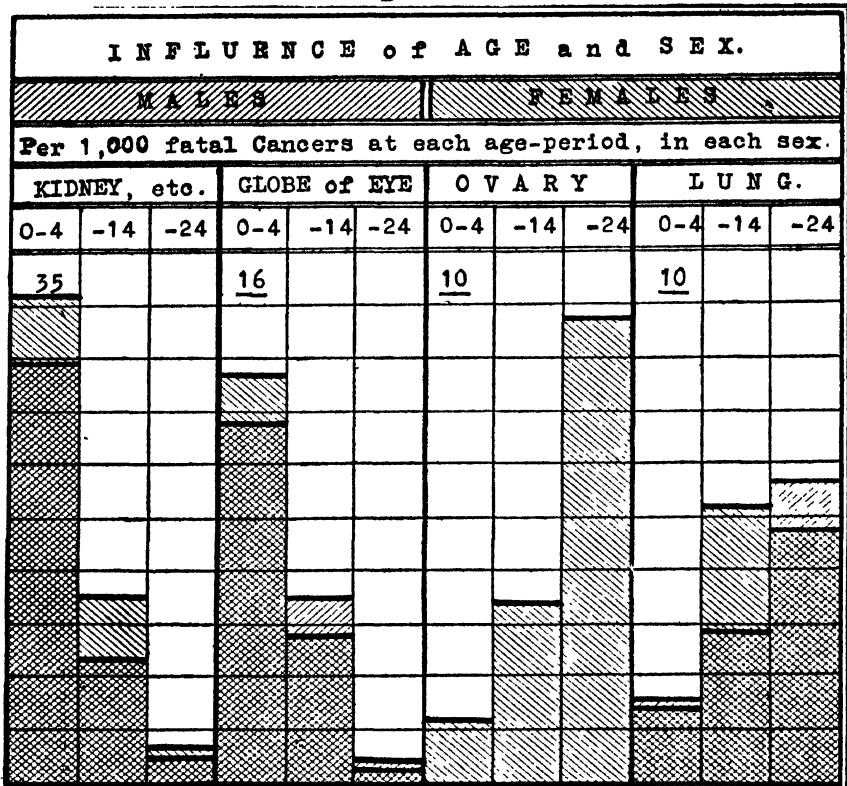
Another apparent contradiction of the thesis that cancer in its essential factors is a disease of degeneration or morbidity is found in the fact that general mortality has been diminishing for many years past and cancer mortality has been increasing during the same period. The increase of cancer mortality has been already dealt with on page 15, as depicted in the Diagram 2 on page 14. The decrease of general mortality in the interval of 30 years from 1861—1870 to 1891—1900 is graphically represented in Diagram 20 on page 92. Herein we see that the diminution of the death-rate has been more pronounced in women than in men, but that such diminution does not apply to all age-periods. In males an actual percentage increase occurs from 45 to 75 years of age, in females from 55 to 75 years of age.

Admitting the thesis (which appears to me incontrovertible) that cancer is the associate or consequence of degeneration or morbidity, we have to admit that it is not *all* diseases which may occasion cancer, but only certain diseases. We note, moreover, that the preponderance of cancer in the female sex in England and Wales is in consequence of the high mortality attributed to cancer of the female organs of generation, and to this subject we must devote immediate attention.

Influence of Sex on the Death-Rate from Cancer.

Sex has an influence on the incidence of all diseases even quite apart from the development of the sexual functions. Measles and whooping-cough are two diseases the fatality from which is almost limited to the first five years of life. They both kill, for the most part, from pulmonary complications. Nevertheless, a glance at the upper part of Diagram 21 on page 94 shows that there is always a very considerable excess of deaths from measles in boys and from whooping-cough in girls.

Diagram 22.



The nervous temperament allows, doubtless, in the case of girls, an accentuation of the spasms characteristic of whooping-cough. A little later the effect of budding adult life makes itself felt even to the extent of influencing the mortality from "all causes," as may be seen in the upper part of Diagram 4 on page 18, where it will be noted that the only age-period which denotes by its shading an excess of female mortality is from 5 to 15 years of age. In some diseases (as, for example phthisis) the accentuation due to the onset of the catamenial function is of much longer duration and more pronounced. It is curious to note, however, that there is no general comparative increase of cancer in the female sex at this time, although in the case of the ovary the rapid rise is very noteworthy, as depicted in Diagram 22, page 96. The lower part of this diagram shows a very important fact. Although cancer of the tongue, of the larynx, of the pharynx, and of the œsophagus (as of the rectum) is much more fatal in men at "all ages," nevertheless, during the period 25 to 35 years of age, there is a great comparative excess in women, most pronounced in the case of the tongue and larynx. This fact is probably due to the nervous sensibility of women, but it would appear to suggest that the same nervous influences must be at work in the corresponding cancers in the male sex, although in a less degree.

For "all ages" the sum of the death-rates due to cancers of the tongue, larynx, pharynx, œsophagus and rectum (England and Wales, 1901—1910) is in the male sex more than double that in the female (205 to 91), so that the excess in the female between 25 and 30 years of age is a very remarkable fact. It appears clear that the sexual functions must bear a share in the causation of cancers in the sites mentioned and that this fact should influence their treatment.

The death-rates from cancers of the female organs of generation (comprising the ovaries, the womb, the breasts and the external genitalia) are graphically represented in Diagrams 11 and 12 on pages 46, 48. The former of these two diagrams compares the age-distribution of the cancers of non-sexual organs and parts of the body with that of the respective cancers of the uterus, breast, external genitalia, and ovaries. One sees that only in the case of the external genitalia is there any comparative excess at the later periods of life (their structure and embryonic origin approximating them to skin), whereas in the case of the ovaries, uterus and breasts their chief mortality falls (as compared with non-sexual cancers) in the earlier age-periods, this being especially true of the ovaries. That the death-rate

Diagram 23.

[illegible]

from cancer of the ovary rises with the onset of early adult life has already been adverted to. (Diagram 22, page 96.)

Referring to the graphical representation of the death-rates due to cancer of the womb and cancer of the breast in England and Wales and in Switzerland, as seen in Diagram 19 on page 91, we see that the comparative death-rate from cancer of the womb is at its maximum during the age-period between 40 and 50 years of age. In view of the teaching of the Diagram 12 on page 48, which depicts the comparative death-rate from cancer of the uterus in the single and married (a term which includes the widowed), as well as the age-distribution of the mortality from all the diseases connected with child-bearing, one cannot doubt that a very important cause of cancer of the womb depends on the accidents of child-birth. It seems not unreasonable to suppose that the larger element of town-life in England and Wales as compared with Switzerland (with the consequent larger proportion of instrumental labours here) has something to do with the excessive death-rate from cancer of the uterus.

Diagram 19 on page 91 shows that cancer of the breast has its comparative maximum (like cancer of the uterus), both in England and Wales and in Switzerland, at the age-period 40—49. It differs from cancer of the womb, however, in having a second maximum in very advanced life. One cannot doubt that the first maximum has its origin in the functional activities of the organ (this is confirmed by the excessive death-rate in the married and widowed 25 to 35 years of age, Diagram 12 on page 48), and the latter maximum in the fact that it is a gland of embryonic origin akin to the skin.

Thus far statistics have taught us that cancer is the associate of other (but not of all) diseases and that its incidence is favoured by the derangement of normal functions. The seat of cancer may be determined by injury, as we have seen in the earliest age-periods in the case of infants, and in cancer of the womb in association with the accidents of parturition. We must now go a step further.

We have seen that the death-rate from cancer in men is in excess of that in women at every age-period, if the cancers referred to the sexual system of the latter be first abstracted. But this does not apply to *all* cancers. The death-rate from cancer of the intestines, liver and gall-bladder, thyroid gland, peritoneum, pelvic bones, mesentery, and of the abdomen are in excess in the female sex, the sum of the death-rates in females being nearly half as much again as in males (261.1 to 181.6).

There are certain diseases which are in excess in females,

Diagram 24.

CANCER and NON - MALIGNANT DIS.																	
AGE-DISTRIBUTION, of 1000 fatal Cases in each Class.																	
MALES							FEMALES										
CANCER: Generative System							OTHER D. Generative System										
-25	25-	35-	45-	55-	65-	-25	25-	35-	45-	55-	65-	-25	25-	35-	45-	55-	65-
(60)						(60)											

viz., rheumatism in its various forms; anæmia and leucocythæmia; chorea, neuritis and insanity; valvular disease of the heart and fatty degeneration; various diseases of the veins giving rise often to hæmorrhage, including apoplexy and gastric ulcer; thrombosis and phlebitis; hernia; disease of the liver and gall-bladder, and of the thyroid gland. It seems reasonable to suppose that the diseases in excess in the female sex should be in closer relation with the cancers that predominate in the same sex than with those most frequently found in males. The same line of argument holds good in respect of diseases which predominate in men, viz., syphilis; pneumonia; tuberculous diseases (including phthisis); alcoholism; gout; rickets, diabetes mellitus; congenital defects; general paralysis of insane and locomotor ataxy; pericarditis; hypertrophy and dilatation of the heart; aneurism, senile gangrene, angina pectoris and other diseases of the blood-vessels; acute and chronic Bright's disease in advanced life; and disease of the bladder and prostate.

The Local Focus of Cancer.

It is notorious that influenza attacks parts which have been previously rendered less resistant by disease or injury. The same observation is true with regard to septicæmia. In the case of cancer it is commonly remarked that this disease in the tongue frequently has its origin in an ulcer due to the friction of this organ against the jagged edge of a decayed tooth or against teeth roughened by the deposit of tartar. Similar observations may be made in regard to chronic skin diseases or scars which may take on (without reason, it is thought) cancerous characters.

We have already seen that the excess of cancer of the female organs of generation in England and Wales as compared with Switzerland is associated with a comparative excess of mortality referred to non-cancerous affections of these organs. Similarly, in Switzerland, the large excess of cancers of the stomach and œsophagus are associated with a strong preponderance of affections of the digestive system in that country.

Reference to Diagrams 23 and 24 (pp. 98, 100) makes it clear that the age and sex distributions of cancerous and non-cancerous affections are very closely related. It is interesting to note that in the case of the œsophagus the excess of cancer in females between 25 and 35 corresponds with an excess of non-cancerous affections during the same age-period.

This question may be carried one step further if all the Swiss Cantons during the decennium 1891—1900 be grouped according to an excess in the death-rates of any one cancer in

particular. In the case of cancers of the thyroid gland, stomach, intestines, liver, peritoneum, lungs, pleuræ, kidneys, bladder, uterus, ovaries, and of the face, in each case, in each group of Cantons, there is an excess in the corresponding non-cancerous diseases of the respective organs. From such facts the conclusion appears inevitable that non-cancerous affection of any organ is a frequent antecedent of cancerous disease in the organ attacked. Moreover, one learns that the local distribution of disease throws important light on the ætiology of cancer.

The Constitutional Origin of Cancer.

We have already seen that cancer is associated with morbidity, but not with all kinds of constitutional illnesses. Whilst cancer has been on the increase, certain other diseases have been on the decrease, very notably even. Infectious, parasitic and malarial diseases, for example, as also phthisis, gout and syphilis. (See Diagrams 15 and 26 on pages 80 and 112.) It is easy to believe that constitutional diseases which have been increasing step by step with cancer may be its causes. Reference may be made to the list of such on page 81, or to the Diagram on page 80. Nothing, for example, is more certain than that diabetes is an intimate associate of cancer.

Keeping these lists in mind, a passage in the Registrar General's Annual Report for 1913, page lxi, is of great interest:—

“The conditions returned as complicating deaths from cancer are summarised on pages 586 and 587. Of these which are not presumably in some if not all cases dependent upon the existence of the growth, the most important are tuberculosis, 78 cases; diabetes, 54 cases; cerebral hemorrhage, 110 cases; valvular disease of the heart, 110 cases; other or unspecified forms of heart disease, 207 cases; Bright's disease, 195 cases; and child-birth, 16 cases.”

The foregoing passage is quoted from the Report published in 1915, whereas the diagrams reproduced on pages 80 and 112 were first published (in French) in 1912. It appears clear that the diseases regarded as complicating cancer are really *its causes*, and this presumption is strengthened by further evidence about to be submitted.

The Tables on pages 104 and 105 have been prepared from the Supplement to the Registrar General's 65th Annual Report which deals with the period 1891—1900. All the counties (with the exception of those having a very small population) are selected which have a mortality from cancer well above the

average for England and Wales, for "all ages," and for nine age-periods. All the counties with a low cancer death-rate are similarly grouped. The comparative mortality (England and Wales as 100) is then determined for diseases of the various systems specified for corresponding age-periods as set forth in the various columns.

Herein is found further confirmation of the association of cancer with tubercular disease in both sexes, and *especially with diseases of the circulatory system*. Disease of the nervous system is much more active in women, as has already been indicated. Especially are diseases of the generative system fruitful of cancer in women, which confirms the observations already made. Diseases of the respiratory system appear the least responsible for cancer in either sex, but diseases of the urinary system (Bright's disease, etc.), exact in both sexes a serious toll after 55 years of age. In males digestion exacts a heavier toll than in females. In one-half the age-periods in males, and in seven out of ten in females, there is association between cancer mortality and the death-rate from "other causes"; that is to say, from causes which cannot be conveniently arranged under one or other of the systems above mentioned. How can one determine what are these "other causes"?

"Other Causes."

The geographical distribution of disease in the Swiss cantons comes to our aid in this enquiry. Table 22 was prepared in the following way:—The five cantons were selected where any disease (say, valvular disease of the heart) was the most frequently fatal, and five cantons where such disease presented the lowest death-rate; that is to say, after correction for the population. For each group the comparative death-rate was ascertained, Switzerland being reckoned as 100. There was therefore a maximum death-rate and a minimum. In order to deal with but one figure, the maximum was divided by the minimum, Switzerland being still reckoned as 100. No figure is registered in the table that is not in excess of 100, save in the case of the cancer-total. But it is obvious that there must be a very substantial excess before any conclusion can be built on the figures.

The Table is extremely interesting. It throws into immediate relief the fact that the diseases associated with carcinoma are but rarely in excess in the same group with those associated with sarcoma. Cancers of the tongue and of the larynx appear to have almost the same associates, whereas it appears clear that valvular disease of the heart is not associated with the

Table 21a.

C A N C E R in England and Wales, in Groups of Counties, according to the Death-Rates (maximum and minimum) due to Cancer and to certain other Diseases, at all ages, and at nine age-periods. 1891-1900. MALES.											
Diseases: -	MAX. MIN.	ALL AGES	-5	5-	15-	25-	35-	45-	55-	65-	75-
C A N C E R	MAX. MIN.	<u>142</u> <u>76</u>	<u>217</u> <u>71</u>	<u>181</u> <u>83</u>	<u>145</u> <u>71</u>	<u>127</u> <u>73</u>	<u>124</u> <u>85</u>	<u>129</u> <u>83</u>	<u>125</u> <u>80</u>	<u>124</u> <u>76</u>	<u>122</u> <u>81</u>
TABES MESENTERICA.	MAX. MIN.	<u>68</u> <u>110</u>	<u>83</u> <u>103</u>	<u>85</u> <u>98</u>	<u>80</u> <u>99</u>	<u>82</u> <u>88</u>	<u>133</u> <u>94</u>	<u>122</u> <u>104</u>	<u>149</u> <u>90</u>	<u>120</u> <u>79</u>	<u>140</u> <u>43</u>
P H T H I S I S	MAX. MIN.	<u>99</u> <u>93</u>	<u>104</u> <u>94</u>	<u>86</u> <u>98</u>	<u>105</u> <u>103</u>	<u>110</u> <u>100</u>	<u>95</u> <u>92</u>	<u>90</u> <u>93</u>	<u>98</u> <u>88</u>	<u>108</u> <u>84</u>	<u>121</u> <u>72</u>
Other TUBERCULOUS Diseases	MAX. MIN.	<u>92</u> <u>99</u>	<u>99</u> <u>99</u>	<u>100</u> <u>92</u>	<u>99</u> <u>105</u>	<u>97</u> <u>97</u>	<u>109</u> <u>83</u>	<u>116</u> <u>87</u>	<u>107</u> <u>93</u>	<u>99</u> <u>87</u>	<u>139</u> <u>86</u>
NERVOUS SYSTEM.	MAX. MIN.	<u>106</u> <u>105</u>	<u>89</u> <u>110</u>	<u>88</u> <u>107</u>	<u>95</u> <u>102</u>	<u>81</u> <u>130</u>	<u>113</u> <u>106</u>	<u>105</u> <u>103</u>	<u>105</u> <u>101</u>	<u>102</u> <u>101</u>	<u>103</u> <u>96</u>
CIRCULATION	MAX. MIN.	<u>131</u> <u>88</u>	<u>120</u> <u>81</u>	<u>102</u> <u>94</u>	<u>123</u> <u>89</u>	<u>111</u> <u>96</u>	<u>110</u> <u>98</u>	<u>103</u> <u>99</u>	<u>105</u> <u>99</u>	<u>107</u> <u>95</u>	<u>111</u> <u>92</u>
RESPIRATION	MAX. MIN.	<u>85</u> <u>111</u>	<u>98</u> <u>103</u>	<u>89</u> <u>114</u>	<u>87</u> <u>86</u>	<u>96</u> <u>88</u>	<u>77</u> <u>117</u>	<u>74</u> <u>118</u>	<u>70</u> <u>116</u>	<u>79</u> <u>114</u>	<u>91</u> <u>106</u>
DIGESTION	MAX. MIN.	<u>97</u> <u>103</u>	<u>88</u> <u>105</u>	<u>117</u> <u>22</u>	<u>109</u> <u>21</u>	<u>98</u> <u>90</u>	<u>112</u> <u>27</u>	<u>115</u> <u>24</u>	<u>108</u> <u>24</u>	<u>108</u> <u>24</u>	<u>108</u> <u>25</u>
URINATION	MAX. MIN.	<u>128</u> <u>85</u>	<u>89</u> <u>115</u>	<u>105</u> <u>101</u>	<u>108</u> <u>89</u>	<u>109</u> <u>82</u>	<u>97</u> <u>93</u>	<u>97</u> <u>92</u>	<u>106</u> <u>93</u>	<u>112</u> <u>86</u>	<u>109</u> <u>85</u>
GENITAL ORGANS	MAX. MIN.	<u>92</u> <u>85</u>	<u>119</u> <u>89</u>	<u>189</u> <u>103</u>	<u>152</u> <u>105</u>	<u>47</u> <u>142</u>	<u>89</u> <u>89</u>	<u>80</u> <u>103</u>	<u>143</u> <u>101</u>	<u>111</u> <u>24</u>	<u>93</u> <u>100</u>
VIOLENCE	MAX. MIN.	<u>99</u> <u>100</u>	<u>102</u> <u>89</u>	<u>110</u> <u>22</u>	<u>86</u> <u>110</u>	<u>83</u> <u>107</u>	<u>110</u> <u>26</u>	<u>111</u> <u>26</u>	<u>109</u> <u>100</u>	<u>98</u> <u>100</u>	<u>87</u> <u>109</u>
OTHER CAUSES	MAX. MIN.	<u>113</u> <u>93</u>	<u>123</u> <u>94</u>	<u>117</u> <u>94</u>	<u>103</u> <u>103</u>	<u>96</u> <u>97</u>	<u>104</u> <u>101</u>	<u>120</u> <u>96</u>	<u>116</u> <u>98</u>	<u>99</u> <u>106</u>	<u>96</u> <u>104</u>

Table 21b.

C A N C E R in England and Wales, in Groups of Cantons, according to the Death-Rates (maximum and minimum) due to Cancer and to certain other Diseases, at all ages, and at nine age-periods. 1891-1900. FEMALES

Diseases: -	MAX. MIN.	ALL AGES	-5	5-	15-	25-	35-	45-	55-	65-	75-
C A N C E R	MAX.	<u>127</u>	<u>189</u>	<u>147</u>	<u>150</u>	<u>137</u>	<u>119</u>	<u>124</u>	<u>122</u>	<u>124</u>	<u>122</u>
	MIN.	<u>76</u>	<u>68</u>	<u>64</u>	<u>66</u>	<u>74</u>	<u>84</u>	<u>85</u>	<u>75</u>	<u>81</u>	<u>75</u>
TABES MESENTERICA	MAX.	69	76	90	85	79	136	117	66	123	66
	MIN.	110	98	90	120	119	112	90	30	94	30
P H T H I S I S	MAX.	<u>101</u>	<u>117</u>	91	93	101	<u>103</u>	<u>110</u>	<u>143</u>	<u>123</u>	<u>143</u>
	MIN.	<u>97</u>	<u>93</u>	94	110	104	<u>98</u>	<u>88</u>	<u>88</u>	<u>83</u>	<u>88</u>
Other TUBERCULOUS Diseases	MAX.	91	<u>104</u>	<u>102</u>	93	91	<u>128</u>	<u>130</u>	<u>117</u>	<u>118</u>	<u>117</u>
	MIN.	96	<u>94</u>	<u>89</u>	114	117	<u>94</u>	<u>87</u>	<u>54</u>	<u>75</u>	<u>54</u>
NERVOUS SYSTEM	MAX.	<u>106</u>	89	86	96	89	<u>105</u>	<u>101</u>	<u>100</u>	<u>105</u>	<u>100</u>
	MIN.	103	109	105	90	91	<u>97</u>	<u>99</u>	<u>92</u>	<u>99</u>	<u>92</u>
CIRCULATION	MAX.	<u>121</u>	<u>128</u>	<u>115</u>	<u>121</u>	<u>105</u>	96	93	<u>101</u>	<u>105</u>	<u>101</u>
	MIN.	<u>88</u>	<u>88</u>	<u>98</u>	<u>80</u>	<u>94</u>	104	103	<u>89</u>	<u>94</u>	<u>89</u>
RESPIRATION	MAX.	87	97	89	97	<u>101</u>	70	66	119	82	119
	MIN.	109	101	112	92	<u>91</u>	117	123	104	109	104
DIGESTION	MAX.	93	91	95	<u>113</u>	112	98	<u>101</u>	<u>106</u>	<u>105</u>	<u>106</u>
	MIN.	106	107	100	<u>96</u>	118	96	<u>99</u>	<u>93</u>	<u>96</u>	<u>93</u>
URINATION	MAX.	<u>98</u>	95	95	109	105	87	92	<u>128</u>	<u>108</u>	<u>128</u>
	MIN.	96	105	110	100	110	101	102	<u>85</u>	<u>90</u>	<u>85</u>
GENITAL ORGANS	MAX.	<u>108</u>	105	<u>145</u>	<u>118</u>	<u>141</u>	<u>108</u>	<u>122</u>	<u>110</u>	<u>113</u>	<u>110</u>
	MIN.	<u>85</u>	102	<u>85</u>	<u>87</u>	<u>79</u>	<u>83</u>	<u>83</u>	<u>80</u>	<u>82</u>	<u>80</u>
VIOLENCE	MAX.	85	95	92	<u>118</u>	<u>125</u>	<u>105</u>	92	105	89	105
	MIN.	99	92	108	<u>81</u>	<u>84</u>	<u>95</u>	104	108	105	108
OTHER CAUSES	MAX.	<u>118</u>	<u>121</u>	<u>102</u>	<u>104</u>	<u>102</u>	<u>104</u>	<u>112</u>	87	97	87
	MIN.	<u>93</u>	<u>94</u>	<u>99</u>	<u>91</u>	<u>95</u>	<u>99</u>	<u>97</u>	107	109	107

Diagram 25,

[illegible]

COMPARATIVE AGE-DISTRIBUTION, 1000 Deaths in Women.

[illegible]

same cancers as are related to degeneration of the heart, syncope, etc. The different cancers associated with gout and chronic rheumatism are equally noteworthy. Nothing can be clearer than this, viz., that the problems of cancer are not to be solved by observing one great agglomeration of diseases as varied in character as are carcinoma and sarcoma. Nor even the great groups of carcinomata. Each cancer has to be studied for itself, although the figures indicate certain small groups. If sarcoma were registered with the same distinctions as apply to the carcinomata, it is possible that similar differences would be observed in their relation to other diseases.

As this question of the grouping of cancers is, in my judgment, of the very greatest importance, an attempt was made to deal with it at a different angle in the Table 23. All the cantons were grouped together in which, for example, there was an excess of the death-rate from Total Cancer, and this was compared with Switzerland as a whole, taken as 100. In the same group of cantons the death-rate from each individual cancer was then ascertained, Switzerland being again taken as 100. Reading the horizontal line we see that there may be an excess of Total Cancer to the amount of 24 per cent. without any excess of sarcoma, with a positive deficiency of cancer of the tongue, and with a negligible excess of cancer of the lip and larynx in both sexes, and the prostate in males, and external genitalia in females. And so on with each separately registered carcinoma as well as for sarcoma.

There is one further question which requires attention. Diseases have their season in the course of life, just as flowers have their season in the course of the year. Two Diagrams on page 106 represent the superposition of the age-distribution of certain diseases on a diagram representing the age-distribution of cancer. It is obvious that if a disease is to be recognised as a cause of cancer it should be active at an earlier period of life than the cancer in question.

Table 22a.

To be read in vertical lines thus: An excess of 48% Pleurisy is found in the same group of cantons as show an excess of 9% TOTAL CANCER; 41% Cancer of the Thyroid; 13% of the Oesophagus; 29% of the Stomach; 13% of the Rectum; 32% of the Liver; 41% of the Peritoneum; etc., etc.	PLEURISY.	Ostitis, Pericostitis.	DIABETES Mellitus et Insipidus.	Chronic Rheumatism.	CODT	Anaemia, Leukaemia.	SYPHILIS.
	148	178	277	249	237	179	488
SWITZERLAND @ 100	148	178	277	249	237	179	488
TOTAL CANCER	109	149			142	120	
Lip				126	204	118	
Tongue			153	192			140
Thyroid Gland	141	248			204	159	
Oesophagus	113	145			167	118	
Stomach	129	172			164	164	
Intestines		141	120	103	101		124
Rectum	113	173	113				132
Liver	132	198			163	136	
Spleen		212		117	128	134	
Pancreas		255					127
Peritoneum	141	183		101	145	178	
Larynx		113	114	132			119
Lungs	112	192	120		126	125	134
Pleurae	113	156		182		134	
Kidneys	111	160	101			115	103
Bladder	128	170		104	115	109	
Prostate		148	138		118		146
Uterus		116	146		102		168
Ovaries	119	159			150	105	
Vagina and Vulva	107	236		136		110	
Breast		159	104		130		108
Face				185		116	
SARCOMA, etc.			127		109		125

Table 22 b.

ALCOHOLISM	ATHEROMA	Hæmorrhag. Cerebri	Morbus BRIGHTII	Struma (GOITRE)	CHOLELITHIASIS	O B E S I T Y	Pericarditis, etc.	Acute Rheumatism	HEART: Valvular Dis.	HEART: Fatty Degener/n	HEART: Paralysis.
269	167	142	195	284	329	250	174	192	172	417	731
	115		123	121		127	117			145	138
108	124	151					128	112	150	103	151
131			153	116		123		169	127		
116	141	107	114	226	118			117		140	181
115	146	118	121	158	112					157	172
	121	111	119	125		124	132			187	203
			137	117	105	160	118	104		115	
105	133		123	132	143	170	125	112		110	
	109	110	114	122	103	139	108			191	173
		164	128			133	141			179	148
	107		150		127	150				191	102
	118	102	117	171		145	155			170	179
150	108		113	162	113	115	104	134	130		
134	133		127	126	116	118		159		130	105
			139	321		133	150			171	162
			108		104	170	112			141	
		114	107	139	109	132				159	136
134	111		119	113	128	132		152	106		
117	127		144	125	125	151	127	137			
	124		123	108	150	161				175	123
113	161		141	125	126			297		149	116
	104		140		103	143	108			137	
		125				113	149				107
			125			118	111	103			

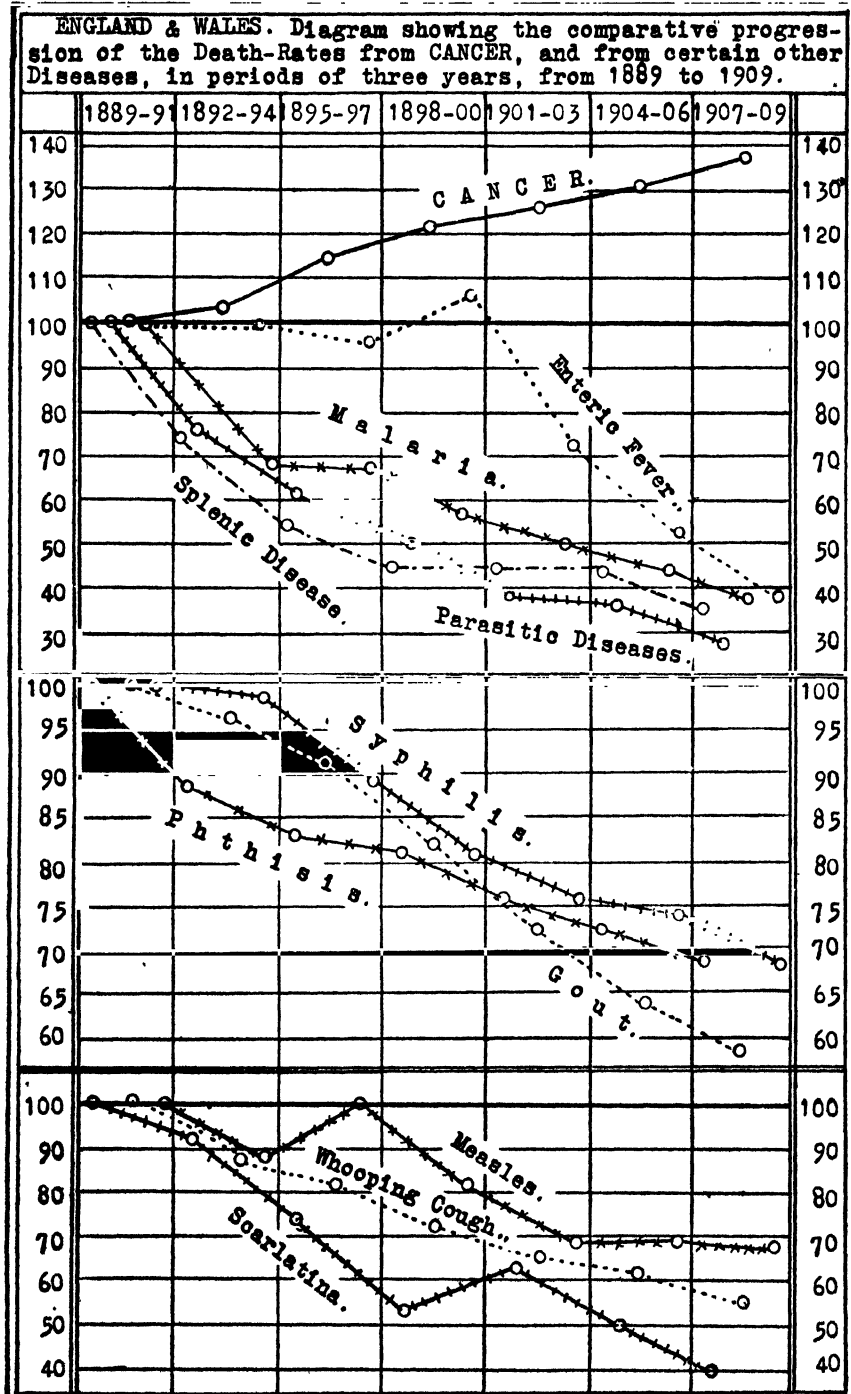
Table 23a.

To be read in horizontal lines thus: In the same group of cantons as shows an excess of 32% Cancer of the Lip there is also an excess of 6% Cancer of the Larynx, 16% of the Vagina, 7% of the Face, etc.	SWITZERLAND @ 100	TOTAL CANCER	Cancer of LIP	Cancer of TONGUE	Cancer of THYROID GLAND	Cancer of OESOPHAGUS	Cancer of STOMACH	Cancer of INTESTINES	Cancer of RECTUM	Cancer of LIVER	Cancer of SPLEEN
TOTAL CANCER	124	124	102		123	124	135	114	121	132	128
C. of Lip	132		132			104					
C. of Tongue	142			142							
C. of Thyroid	131	111			131	117	117		104	118	
C. of Oesophagus	122	110	105		119	122	115		109	114	106
C. of Stomach	144	127	110		130	125	144	108	117	139	129
C. of Intestines	123	114		109	113	114	112	123	121	119	124
C. of Rectum	126	113			108	109	113	119	126	117	143
C. of Liver	138	124			125	126	137	108	117	138	134
C. of Spleen	161	115	103		109	119	122	110	107	125	161
C. of Pancreas	159	113			116	109	114	115	122	126	119
C. Peritoneum	138	119			116	120	128	111	115	126	135
C. of Larynx	127		106	120	104	106			102		
C. of Lungs	133				117	113			106		
C. of Pleurae	172	114		121	110	120	117	117	106	117	125
C. of Kidneys	127	110		106		104	112	115	115	116	118
C. of Bladder	133	121			128	116	127	118	119	130	118
C. of Prostate	117			109	104			106	112		
C. of Uterus	125	108		119	106		104	119	121	103	116
C. of Ovary	137	122			122	125	134	110	118	136	140
C. Vagina, &c.	159		113	119	121	108					
C. of Breast	118	114		102	109	109	118	115	116	121	133
C. of Face	142	105	111	114			109	108	102	104	123
SARCOMA	118	102	112	121				108			123

Table 23 b.

Cancer of PANCREAS	Cancer of PERITONEUM	Cancer of LARYNX	Cancer of LUNGS	Cancer of PLEURAE	Cancer of KIDNEYS	Cancer of BLADDER	Cancer of PROSTATE	Cancer of UTERUS	Cancer of OVARIES	Cancer of VAGINA, etc.	Cancer of BREAST	Cancer of FACE	SARCOMA
111	139		110	144	123	122	104	110	127	104	116	107	
	102	106		103						116		107	
		115	103				113	104		115			108
106	117		117	114	104	116	102	102	119	118			
	120	102	109	112	102	110			113	109	102		
113	146		119	137	121	126		104	132	105	113	106	
116	123	106	115	126	125	118	119	114	117		121	102	107
120	120	109	111	117	122	114	115	113	114		119	108	105
113	140		112	132	121	125		102	130		114	105	
117	126	102	106	141	116	120	104		116	123	115	120	
159	121		122	102	125	127	110	106	122		118		
109	138		114	138	122	118	103	103	118	102	111	112	
		127		107			107	106		107		103	
120			133				110	108	106	114			
	127	114		172	111	121		103	108	112	112	124	102
110	115			124	127	110	104	104	111		109	108	105
130	135		117	146	118	133	108	115	128	120	121	107	
106		107	114		109	105	117	108	108		104		106
119	114	110	125	109	114		118	125	103		114	105	112
120	134		113	123	123	124	103	104	137	110	117		
104		109	112	113			107	106	102	159	103		
111	121	102	105	126	120	113	109	107	114	107	118	107	102
	115	109		152	106	110		102			104	142	102
		106		113	108		103				107	117	118

Diagram 26.



IS CANCER CONTAGIOUS?

This question is frequently asked by patients, and the most logical answer appears to be that furnished by statistics. It is true that cancer research workers have concluded from their observations on mice that cancer is not contagious: to those, therefore, to whom the authority of such research has the force of law no further proof is necessary. But statistics based on the experiments made by society on millions of men and women in Nature's laboratory answer the question in the same sense. We have seen how many thousands of women die from cancer of the uterus annually in England and Wales. Yet it is a very rare circumstance for husband and wife to be both suffering from cancer of the sexual organs, so rare that the cases may safely be regarded as coincidences.

The "cancer-houses" in which there is a sequence of cancer fatalities affecting one occupier after another are explained by the author's theories of cancer as viewed from diverse standpoints. Houses that are damp and sunless are certainly causes of rheumatism and anæmia, and these two maladies are certainly causes of cancer.

As shown in Diagram 26 on page 112 virtually all the infectious and contagious illnesses have been in diminution these many years past in England and Wales. Why should cancer alone during the same period make such alarming advances? We have the war to account for the recent increase of consumption and syphilis, both diseases chiefly affecting the comparatively young. But no such explanation is available for cancer, a disease chiefly affecting those advancing in years, whereas the author's theory, based on statistical evidence, affords a consistent explanation. The theory accounts, moreover, for the rare cases observed of auto-infection which have been supposed to offer conclusive proof of the contagiousness of cancer. For example, a cancer on the inner surface of the labium majus of one side lies in contact with the mucous surface of the corresponding part of the other side; a cancer develops at this spot. What has occurred is this: The discharge from the cancer already established weakens the resistance of the adjacent mucous surface of the other side as any chemical irritant might do, and the constitutional affection—gout, rheumatism, diabetes, or what not—which excited the primary cancer, provokes a secondary manifestation of the same disease. We conclude, therefore, that the evidence is unanimously

against the idea of cancer being in any sense a contagious disease.

SUMMARY.

(1) Cancer is a disease not of old age, as such, but of morbidity or degeneration.

(2) There are two factors in every case of cancer :

(i) A local one which depends on a reduction of the normal resistance of the part to adverse influences.

(ii) A constitutional one.

(3) Constitutional diseases have a very unequal share in the production of cancer. Some, such as Bright's disease, diabetes, and heart affections, play a very important part; respiratory diseases a much less noticeable one.

(4) Under the term "cancer," are included two diseases, viz., carcinoma and sarcoma, the relationships of which show that they are two absolutely distinct diseases which have their origin, in fact, in tissues developed from different embryonic membranes.

(5) Of the carcinomata also there are groups of cancers having different embryonic origins and different clinical relationships.

(6) Functional activity and its consequences play a very important part in the production of cancer. This is best seen in (but is by no means limited to) the sexual organs and sexual diseases.

(7) In most cases the constitutional malady, the exciting cause of the cancer, will have given some evidence of its presence *antecedent* to the development of the malignant growth.

(8) The evidence against the contagiousness of cancer is consistent and conclusive. Cancer is not a contagious malady.

THE AUTHOR'S THEORY OF CANCER,

from the Clinical Standpoint.

"Spontaneous Cures."

It is a fact admitted by all acquainted with cancer, that even very advanced cancers may undergo "spontaneous cure."

(1) A case published by Sir Pearce Gould, when Surgeon to the Middlesex Hospital cancer-foundation, is very instructive. This patient had been repeatedly operated, first for cancer of the one breast, and then of the other, as well as for recurrent masses. Further operation was deemed to be excluded, as the patient appeared to be suffering from cancerous involvement of the right lung and the left thigh bone, which fractured spontaneously. Although death appeared imminent, this patient completely recovered and remained in good health for many years.

(2) Sir Watson Cheyne has also recorded a case of cancer of the breast, where the patient returned after operation with such numerous nodules (presumed cancerous) disseminated over a large area of the body, that further surgical intervention was deemed impossible. A year later this patient presented herself once more, to the great astonishment of her surgeon, free from all sign of cancer.

(3) I have myself seen and published a case of sarcoma, where the tumour sprang from the lower part of the spine on its front aspect. The tumour grew until its pressure on the kidneys induced uremic convulsions, and the patient's death was expected almost hourly. Nevertheless, from this time the growth began to shrink, until the patient was restored to health and strength.

Such reported cases, though numerous, probably represent but a very small fraction of the cases of "spontaneous cure" that actually occur; recorded cases, however, are sufficiently numerous to prove that conditions may exist in which the cancer-process can no longer continue; it is the cancer that dies and the patient that lives. But if spontaneous cure is possible in such advanced cases as those cited, is it not reasonable to suppose that it is even more frequent in earlier cases? And if this be true of unaided Nature, is it not certain that medical attention directed to combat the probable causes of the disease in individual cases should logically result in a very much larger proportion of cures? And this view receives confirmation in considering the following passage by the late Dr. Bristowe,

Senior Physician to St. Thomas's Hospital, one of the most eminent of modern physicians :—

“ This primary origin (of morbid growths) is referred by many to a ‘ dyscrasia,’ or morbid condition of system, itself supposed to be produced by the presence of some morbid matter or influence residing in the blood ; and indeed Mr. Simon, who formerly adopted this view, regarded a carcinomatous tumour as a newly developed organ, whose express purpose was to effect the separation of such poison from the organism. There are several considerations which lend countenance to this hypothesis.”

Amongst the number of such considerations, an observation published by the Imperial Cancer Research Fund appears to merit attention, namely, that in a long series of post mortem examinations it was found that 22 per cent. of the cancers thus discovered had not been suspected during life. This view, at first held by Sir John Simon, and subsequently endorsed by Dr. Bristowe, merits earnest attention, although it may stagger the reader to be told that Nature's primary idea in creating a cancer is one of beneficence. Yet, is it not true that fever and hæmorrhage, cough and expectoration, vomiting and diarrhoea, and even dropsy, may one and all be safeguards to life, although each may also, *when left unchecked*, bring the patient to his grave ?

It is an acknowledged fact that in human anatomy abnormalities are often very rich in teaching. There is one such abnormality, indeed, which seems to throw a most interesting light on the theory that a cancer at its origin may be but an effort of Nature to deal with abnormal constitutional conditions. It is commonly accepted ground that under the influence of inflammation cells lose the sharpness of their acquired definition and tend to revert in a greater or less degree to the embryonic type. Now what we know is that by some slight alteration of normal embryonic conditions—so slight as to escape explanation—tissues may develop in abnormal sites. A dermoid cyst in the abdomen may contain bones, teeth and hair, for example. Is there anything unreasonable in the suggestion, therefore, that Nature should profit by the cellular reversion to an embryonic type to develop a gland having as its function to deal with abnormal constitutional conditions ?

Moreover, in what sense can such cures be regarded logically as “ spontaneous ” ? We know, for example, that cancer attacks persons believed to be in the best of health. That these victims of cancer were really “ in the best of health,” I cannot admit ; but does not the belief suggest that the cause

of cancer may be apparently so insignificant as to escape recognition? And if this be true of the cause, is it unreasonable to suppose that it may be true also of the means of cure?

Probably every patient suffering from cancer has certain symptoms referable to some one organ or another, in addition to that affected by the cancer. In treating these, the doctor may be dealing with "the morbid matter or influence residing in the blood," the removal or destruction of which may render the cure of the patient possible. Take, for example, the three cases of "spontaneous cure" already cited. To Sir Pearce Gould's patient remedies were certainly administered in dealing with symptoms, drugs which I should regard as remedies for cancer. Sir Watson Cheyne's patient gave up drinking beer and substituted lemon juice as a beverage. She replaced what was for her a dangerous poison by a valuable remedy. As to my own patient, the probable explanation appears to be that the obstructed kidneys prevented the too rapid passage of the remedy (iodide of potassium) out of the body, with the result that its prolonged action killed the growth.

So far as the author's theory of cancer depends on statistics and clinical observation, it is within the competence of every medical man—of every cancer patient, even—to put it to the test of experience. In the majority of cases, evidence will not be difficult to find, showing that the patient had first suffered from some injury or from some catarrhal or other affection of the part subsequently attacked by cancer; that he likewise suffered in a greater or less degree from a constitutional ailment (let us suppose rheumatism), which got better before the cancer was noticed, or as it developed. If the doctor, after having carefully considered the family and personal medical history of the patient, as well as his actual condition, will ask himself, "What should I certify as the *secondary* cause of death, if the patient were to die to-day?" he will probably have hit upon the *primary* cause, because the cause of the cancer.

And what is even more important is this:—It is very probable that the cancer will be cured by the treatment of the constitutional affection observed, though not recognised as a cause of the cancer. In my pamphlet published in Switzerland in 1916, "*Un régime anticancéreux*," referring to my theory of cancer regarded from the clinical standpoint, it was said:—"This theory does not admit that 'spontaneous cures' are caprices of Nature; it regards them rather as the key-stone to a right conception of cancer which depends, alike as to its origin and as to its cure, on causes apparently

so trivial that one refuses to consider them. A patient, for example, in whose case the cancer owed its origin to rheumatism, may suffer from pains elsewhere, which, being recognised as of a rheumatic nature, are treated conformably. The treatment of the rheumatism cures the cancer. It is idle in such a case to talk of a 'spontaneous cure.'"

In the same pamphlet the following illustrations were furnished in justification of the author's views as to the causation of cancer. Some of the cases are reported at greater length later in this present work.

ILLUSTRATIONS.

(1) A single lady who had suffered for many years from severe periodic attacks of megrim received a blow on her right breast from the revolving handle of a machine. The megrim ceased to afflict her as a scirrhus cancer developed in her breast. The constitutional conditions which had previously manifested themselves in recurrent attacks of sick-headache, having concentrated themselves on a part the resistance of which had been diminished by the injury, developed in that site a cancer, but ceased to manifest themselves in the old fashion.

(2) A lady who had suffered for several years from pains in the ankles, wrists and elsewhere of a reputed rheumatic nature was attacked (as a sequel to an accouchement) with inflammation of the breast which ran a normal course and was apparently cured. She subsequently remarked with satisfaction that her rheumatic pains had disappeared. Some time afterwards, however, recurrent lancinating pains in the breast attracted her attention to this organ. A tumour was detected which the doctor diagnosed as a scirrhus cancer.

(3) For several years past a lady had had a swelling in her breast which had been discovered accidentally. To this she paid no attention as it caused her no pain or other inconvenience. As a sequel to an attack of influenza, however, this tumour took on rapid growth. But whether it was originally a benign tumour or a quiescent cancer, it is impossible to say; all one knows is that its malignancy was manifested after an attack of influenza.

(4) A gentleman endowed with a robust appetite and liking a glass of good wine—a man whose apparent good health made him the envy of his friends—suffers suddenly a grievous bereavement. The indigestion from which he had

occasionally suffered previously becomes now more aggressive in its manifestations, but it is not until he has lost considerable flesh that a cancer of the stomach is detected. In this case the subtle constitutional derangements due to the disturbed metabolism resulting from a lack of balance in the nervous control of the digestion concentrate themselves on an organ already weakened by over-exertion—and a cancer results.

(5) For several years a man had had a chronic affection of the skin of microbic origin to which he paid but little attention as it was out of sight and painless. Without obvious reason this old-standing cutaneous affection undergoes a change of type and presents the characters of a cancer. An examination of the urine explains the difficulty: the patient has become diabetic.

(6) Of two brothers who have inherited a strong predisposition to gout, the one ultimately dies from chronic Bright's disease, whilst the other—a smoker who has sadly neglected his teeth—develops a cancer of the tongue. The constitutional conditions which in the case of the first brother predisposed to chronic granular kidney, in the case of the second brother found a focus of diminished resistance on which to concentrate themselves.

(7) In a family tainted with a medical history of alcoholism and tubercle, some children die in early life from catarrhal affections, and one other in early adult life from phthisis. Two other members of this family, who, thanks to a regimen of suralimentation have survived the period of adolescence, suffer from its consequences when the excretory organs (especially the kidneys) become less equal to their abnormal task. The brother who has abused tobacco suffers from cancer of the larynx and the sister who has suffered from inveterate constipation succumbs to cancer of the intestine.

To the foregoing types may with advantage be added a case reported by the wife of a patient whom I never saw, because I refused to promise to hide from him the real nature of his malady. The lady wrote me saying that she was sure my views on cancer were the true ones, and cited the case of her husband in confirmation:—

(8) An officer who had had a parotid swelling for many years, perhaps from birth, suffered from chronic rheumatism. During the mobilisation he found time lie heavily on his hands, and was persuaded by a surgical friend to profit by the circumstances and have the tumour removed. This was successfully done. The rheumatic symptoms speedily disappeared, but cancer developed at the site of the operation.

In each of the above illustrations there is a local focus of diminished resistance on which a constitutional malady has concentrated itself.

Two important questions arise out of this theory of cancer viewed from the clinical standpoint in regard to :—

- (1) The heredity of cancer.
- (2) The limits of its curability.

And to these two questions attention must now be directed.

THE HEREDITY OF CANCER.

The author's view, as printed in 1908 in his opuscle, "Cancer: Operation not The Cure, but a Cause," was as follows:—

"The question of the hereditariness of cancer is not to be determined easily, because coincidences are (may be) of such a very remarkable character. It is said that one in every twelve men who arrives at the cancer age (35 years of age and upwards) will sooner or later die of cancer, and that the proportion of women is even larger (one in ten).

"Doubtless the accepted view of the heredity of cancer is substantially true, although probably it has not yet been settled with scientific accuracy. Hereditary tendencies such as those recognised by Erichsen in 1895 clearly indicate a constitutional element in cancer causation."

It is not my intention to re-quote from pages 117 and 118 of the work cited the authorities quoted by Erichsen (Velpeau, Paget and Sibley), for the simple reason that my theory of cancer makes its hereditariness an absolute logical necessity, since to deny that local as well as constitutional peculiarities are reproduced by hereditary would be a negation of all that is best established in this domain. Nevertheless, at the same time, my theory assures almost complete immunity to those who will be guided by its teaching. In my pamphlet published in Switzerland in 1916, "*Un régime anticancéreux*," the following opinions (let me rather say, convictions) find expression on pages 17 and 18:—

"In the first place it must be recognised that cancer is a disease attributable to causes which it is in our power to diminish very considerably by a more careful hygiene, alike personal, domestic and social. It will no longer be a question of seeking an anti-cancer cure-all, but of putting into practice commonsense, our knowledge, and the means already at our

command in order to avoid (or to treat suitably) all local derangements which might become a focus for cancer, and as much as possible, every constitutional malady which might excite malignant degeneration.

“Although our conception of the hereditariness of cancer is evidently extended, a cancerous heritage loses the greater part of its terrors. The daughter of a mother dead, for example, from cancer of the breast will take care to treat without loss of time any injury to the breast, giving this organ rest by carrying the arm in a sling. She will do her best to conquer her “nerves” and will avoid all irregularities which might have a prejudicial effect on the breast, irregularities such as have been already indicated in the statistical part of the present work.

“The son of a father dead from cancer of the tongue will pay special attention to his teeth and will be very temperate in the use of alcohol and tobacco, or will be a total abstainer in regard to these two commodities. (He will also remember that the tongue is one of those sites of cancer on which sexual conditions have a reflex influence, as is suggested in the statistical evidence already submitted.)

By attention to an anti-cancerous hygiene—which is nothing more than the maintenance of a healthy mind in a healthy body—one may hope with great assurance to be able to annul a cancerous heredity. At the same time it is necessary to avoid a morbid attention to the subject, as there is nothing more prejudicial than the “fixed idea.”

THE LIMITS OF THE CURABILITY OF CANCER.

(1) Starting from the position that cancer is curable, in so far as its causes are remediable, it appears fairly obvious, on the one hand, that there is no room for despair, even in advanced cases, and, on the other hand, no justification for promises, to say nothing of the “guarantees,” of which one sometimes hears.

(2) The disappointments which are too frequently met with in the treatment of cancer are for the most part avoidable. Supposing, for example, that a patient, whose temporary improvement appeared to amount to a cure, “returns to his folly as a dog to his vomit,” and suffers a relapse (perhaps fatal), is such relapse to be regarded as a proof that cancer is not

curable? Is it not logically a proof that the disease from which the patient had suffered—of which he had apparently been cured—was really cancer? If the patient is permanently cured by non-operative methods, it is customary to regard the case as one of mistaken diagnosis or “spontaneous cure.” The patient who, apparently cured, disregards all injunctions formulated for his welfare, and thereby pays with his life for his indiscretion, proves by experimental evidence *that cancer is curable, and that his cancer was caused in the manner supposed.*

(3) A patient suffering from rheumatism does not say that this affection is incurable, because from time to time he is obliged to resort to the treatment that had already benefitted him. If a cancer owed its origin to rheumatism, is it reasonable to expect that it should be cured once and for all? Should not the patient be prepared to undergo renewed treatment, if the old mischief re-asserts itself?

(4) If a cancer owed its origin (as very often it does) to the perversion of nutrition, the consequences of nervous disturbance, arising from financial worries or bereavement, is it reasonable to expect a cure, unless the patient himself “ministers to a mind diseased”? The misfortune is, that the patient worried by financial troubles has not the time and means to spend upon his health; he disregards his symptoms; and the patient who has lost one dear to him perhaps loses with the departed the desire to live—a mentality very inimical to cure.

These are days, fortunately, when fresh attention is being paid to the effect of psychical influences in the treatment of disease, the beneficial effect of which, moreover, is by no means limited to functional disorders. Concentrated attention undoubtedly controls *organic* growth; hence, when one hears that cancer has been cured by believing prayer, the statement merits the most respectful attention. I myself emphatically believe in the possibility of such cases.

Grave, therefore, is the responsibility of those who would have patients believe that there is no cure of cancer apart from operation, because, in relation to the vast army of sufferers who *know* that they are the victims of inoperable cancer, they become, in fact, *the most powerful allies of the malady.*

And the effect of such teaching is not less prejudicial in the case of those patients from whom a true knowledge of their disease is jealously guarded. One may presume that but few men of average intelligence are entirely free from suspicion as to the real nature of their trouble, *even though they prefer not to know.* What happens? Such an one may under non-

operative treatment improve so rapidly, that he argues that it is impossible that his disease can be cancer—for cancer, it is said, is incurable—and in this conviction he ceases or neglects his treatment, and in consequence suffers from a recrudescence of his mischief, *inevitably in intensified form*; for it is probably an universal experience in the treatment of all disease, that a relapse—other things being equal—is much more difficult to treat successfully than the original attack. An enormous stride will have been made towards the conquest of cancer when it is recognised by the profession and public alike that cancer is already curable. There will then be no justification for hiding from patients the true nature of their malady. It was Hippocrates, the Father of Medicine, who said:—"He cures most, whom most trust."

Although I emphatically hold that no case of cancer is to be recognised as hopeless, and, consequently, that no doctor can be justified in failing to do his utmost with a view to *cure* the patient, it is but too clear that some cases do not respond to treatment, probably because the real cause of the malady has been overlooked. Certain cases will be briefly reported in the notes, in order to illustrate this reservation, because I maintain that to relieve the consequences of the disease—the patient's moral as well as physical suffering—without having recourse to opiates, is a worthy object of one's efforts, and oftentimes deeply appreciated by the sufferer.

Let the reader imagine a train rushing on to disaster! On the one hand, there is the weight of the train and its rapidity, as well as the smoothness (slipperiness, perhaps) of the rails: on the other hand, the power of the brakes. What would my reader think of the engine-driver who failed to put on his brakes with his utmost strength because he doubted of their adequacy in such an emergency? That is precisely how I regard the responsibility of the doctor who fails to do his utmost to *cure* every cancer patient, with the treatment of whom he is entrusted.

Diseases Associated with Cancer.

Before leaving this part of my subject it may be well to analyse in its main lines the teaching of the Table 22 on pages 108 and 109.

Sarcoma is associated with gout, syphilis, Bright's disease, obesity and acute rheumatism.

Of the carcinomata there appear to be five leading groups:

(i) The most numerous group, consisting chiefly of the stomach and liver, ovaries and thyroid gland, has for asso-

ciated diseases ostitis and periostitis, gout, anæmia and leucocythaemia, atheroma, Bright's disease, obesity and fatty heart.

(ii) Of the four smaller groups the one consisting of the tongue, larynx, prostate and uterus is more directly associated with diabetes, rheumatism, syphilis and alcoholism, associations more suggestive of sarcoma than of the majority of the carcinomata.

(iii) Cancers of the intestine and rectum are, as it were, links between the two first groups, their associates being ostitis and periostitis, diabetes, syphilis, Bright's disease, struma (enlarged thyroid gland), cholelithiasis and obesity, acute rheumatic conditions and fatty degeneration and paralysis of the heart.

(iv) Cancer of the lip, the face, and the vulva have also associations in common, especially chronic rheumatism, anæmia, cerebral hæmorrhage and paralysis of the heart.

(v) Cancer of the breast has for associated diseases ostitis and periostitis, diabetes, gout, syphilis, atheroma, cerebral hæmorrhage, cholelithiasis and obesity, pericarditis and fatty heart. In a word, the chief diseases associated with the four groups of carcinomata above mentioned.

From this Table, then, it will be seen that cancer is associated with diseases, the consequences of mis-directed metabolism of each of the four classes of food-stuffs—salts, carbohydrates, nitrogenous and fatty foods. Cancer is seen to be directly associated with imperfect action of the emunctory organs and with diminished or perverted secretion of those internal glands, the thyroid being one with which we are the most familiar. Defective circulation is the most formidable factor of all. These facts have most important bearings on treatment.

It is not suggested that the Table now under discussion gives a solution of cancer problems with mathematical exactitude. For example, cancer of the œsophagus may be more closely related to cancer of the tongue or larynx on the one hand, or to cancer of the stomach on the other hand, according to its situation. Similarly, cancer of the rectum may approximate in its relations to intestinal or to cutaneous cancer.

Table 23 on pages 110 and 111, which deals solely with the association in families, so to speak, of the diverse cancers, furnishes confirmatory evidence of the substantial justice of the groupings above suggested.

THE AUTHOR'S THEORY OF CANCER, from the Standpoint of Economics.

This point of view is in part but a summarised application of what has already been said in regard to theories of cancer from the standpoint of science, statistics and clinical experience.

Cancer has been rapidly on the increase for many years past in most civilised lands, if one may judge by the published figures. Part of this increase has been *apparent only* and not real, owing to the increased facilities of diagnosis afforded by more frequent exploratory operations and post-mortem examinations. Part has been due to misdirected treatment; on this subject enough has been said. Part is due to the diminished mortality in early life, whereby a larger proportion of lives reach the "cancer-age," which is generally considered as starting at 35, although cancer-mortality shows a progressive rise from an even earlier age. Increase from this cause is much less than is generally argued, as was shown in my pamphlet (1912), "Cancer: Some of its Problems and their Solution."

There remains, however, a very serious increment of mortality ascribable to cancer which is unaccounted for by considerations such as the above, the reality of which is convincingly proved by such a diagram as that published on page 14 considered in the light of the explanatory text. The proof of this increase should stimulate enquiry as to its causes with a view to the application of the knowledge acquired to the prevention and cure of cancer.

Here a word of personal explanation is necessary. For this work figures had been calculated from the data furnished in the "Statistical Abstracts for the United Kingdom," which it was intended to display in a Table showing the consumption of the various articles of food, drink, etc., per head of the population over a period of twenty years. At the moment of quitting England for Austria, where I am completing this work, it appears that the MS. dealing with these figures was mislaid and cannot be found, so that I am now forced to trust to my memory and treat this subject in general terms. But the facts as I state them may be relied on, for they are but a confirmation of what was printed in 1906 in "Cancer, a Working Theory for its Prevention and

health and strength may be maintained on a dietary but a fraction of what had been previously considered obligatory. In the young this suralimentation allows of an increased output of work. But the time comes when the stomach, the liver and the kidneys cannot bear the strain of such prolonged overwork under unfavourable conditions, hence dyspepsia, Bright's disease, and diabetes result. From the clinical standpoint the accuracy of this point of view is confirmed by the benefit which has attended the hunger-cure of cancer, the "cura famis."

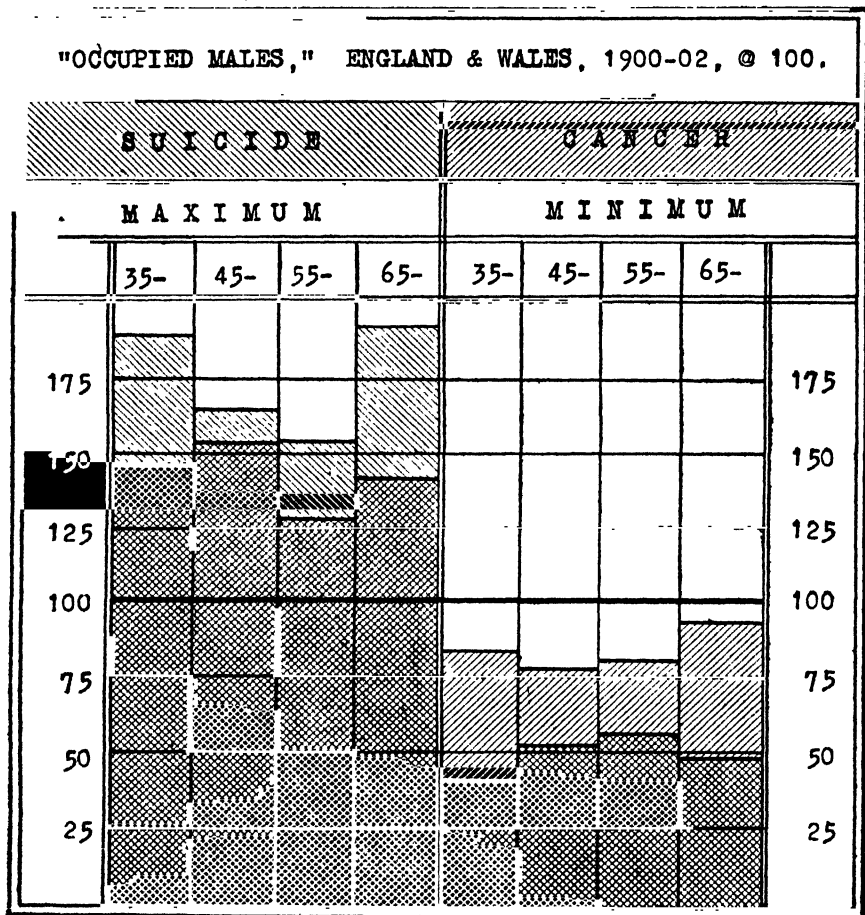
Moreover, to deal with the increased work, there has been an exodus from the country, where cancer is less prevalent, into the towns, where it attacks a larger proportion of victims. The Diagram 27 shows the comparative mortality from cancer of workers in vitiated atmospheres, that of agriculturists being taken as 100. The diminished physical activities of town life (which is necessarily largely sedentary) leads to constipation, which is now being recognised more and more as a fruitful cause of cancer.

The unnatural stress now referred to, and its resulting disabilities, leads to a demand for stimulants—alcohol, tea, coffee, cocoa, tobacco, and drugs, which further diminish the working capabilities of the overworked digestive and emunctory organs. The abuse of these accessories of civilisation intensifies the disastrous effect of the overstress of modern life on the nervous system, proof of which is to be seen in increasing lunacy and more numerous suicides. The occasional suicides resulting from the pain of cancer do not come into these figures because such deaths are referred to cancer. Diagram 28 shows that in the groups of occupied males which are distinguished by a high and low cancer mortality respectively, there is a corresponding excess or diminution in the number of suicides. Suicide and cancer are both (in part, at least) referable to the same causes, viz., the abnormal stress of life and its frequent result, alcoholic excess. Although I know of no figures dealing with the question, I should have no hesitation in expressing the opinion that there *should be* in lunatic asylums a considerable excess of cancer mortality as compared with the general population. This is a matter which might be put to a very simple test, and would do much to confirm or discredit my views as to the genesis of cancer.

(ii) The increased deposits in the Savings Banks, the increased value of each penny of the income-tax, and the diminished proportion of bankruptcies are ample evidence of

the increased "well-being" of the community, and afford sufficient explanation of the growing luxury of the population. The immediate consequences of such increased luxury are a disregard for natural foods and heightened attention to the culinary art, whilst less attention is paid to mastication, with the consequence that the teeth deteriorate. The toxins

Diagram 28.



arising from decayed teeth and purulent gums not only favour cancer in the alimentary canal but probably in other parts, such as the breast. Certainly the most malignant cases of cancer of the breast that I have ever seen (one of the cases is photographed on page 174) were in women whose teeth were in an exceptionally rotten condition:

(iii) Statistics furnished in the earlier part of this work have shown that the diseases of degeneration, Bright's disease, diabetes, valvular and fatty disease of the heart, etc., have been constantly on the increase, thus confirming the validity of the point of view here submitted.

There is yet another item of great importance to which attention should be drawn. The determination of the population in the towns, and increasing luxury, have conjointly had a pernicious influence on the birth-rate. If the fall in the birth-rate has diminished the mortality ascribable to cancer of the uterus, it seems perfectly clear that there are a number of cancers in the production of which irregularities in sexual matters play a not unimportant part.

There are two or three other factors which must be considered. In the Introduction reference was made to the practice not more than a century ago of bleeding men, women and children periodically. It is more than possible that the abuse of venesection has led to its abolition in a fashion equally empirical and devoid of scientific authority. I have had recourse to bleeding but very rarely during my professional career, but it has always been, on these rare occasions, of great benefit to the patient.

It is said that cancer does not attack a patient for a number of years after an attack of enteric. The mortality from enteric fever has very greatly diminished. It must not be forgotten, however, that enteric fever is especially prevalent at a time of life when cancer exacts a comparatively insignificant toll. If the observation is a correct one, it may be explained by the limited diet pursued for a number of weeks acting as a modified hunger-diet, thus permitting the combustion of those products of metabolism already indicated in discussing the theory of "dyskinesis" as excitants of that cellular proliferation which initiates the cancer cycle. And the same line of argument may be applied to the old-fashioned attack of gout, which is scarcely ever seen now, and to small-pox, which at the present time is a disease seen only by a minority of medical men.

Without worrying my reader by further argument, he will, I trust, understand what I mean when I allege that the prevention of cancer is more a matter for the political and social economist than for the worker in research-laboratories.

The figures previously referred to will be found as an appendix.

CANCER FACTS.

In support of each of the sub-heads of the author's theory of cancer, facts have been adduced which may be fairly described as "cancer facts," that is to say, facts of interest in elucidating the problems of cancer. But such facts are to be regarded rather as *factors* in the premisses of a logical proposition from which the inevitable conclusion to be drawn is the establishment of two fundamentals:—

(i) *That cancer is a preventible disease.*

(ii) *That cancer is a curable disease.*

We have seen, in short, that step by step with the increase of cancer other diseases have been advancing, diseases the progress of which it would have been but reasonable to expect from the changing habits of the population as already indicated from the standpoint of economics. We have seen these very diseases (diabetes, Bright's disease, and fatty heart, for example) scheduled in the official reports of the Registrar-General as *secondary* causes of death in cancer patients; we have seen these diseases registered in the Swiss statistics of mortality as in excess in the same cantons as present an excess of mortality due to this or that cancer or to cancer "in all sites." There is abundant clinical proof that in the presence of a local lesion (whether injury or chronic irritation) such constitutional diseases may appear to undergo an amelioration, whilst cancer develops at the site of the local lesion.

From the foregoing premisses is not the conclusion inevitable that cancer must be preventible to the extent that its local and constitutional antecedents are to be avoided? The facts above cited, moreover, seem to justify in a remarkable way the validity of the methods employed by the author in the investigation of cancer. The opinion as to its causation expressed in the pamphlet first printed in 1906, "Cancer: a Working Theory for its Prevention and Cure," appears to me as valid to-day as it did then. (See page 76.) And the prevention of cancer naturally depends on the avoidance of its causes.

That tendencies to degenerations are inherited must certainly be admitted. Nevertheless, according to the point of view enunciated herein, the person, one or both of whose parents died of cancer, has a better chance of avoiding this disease than one who does not recognise its causes, or fails to safeguard himself against them.

THE RATIONALE OF CANCER- PREVENTION.

If the reader accepts the theory of the author as to the causation of cancer as taught by science, by statistics and by clinical experience, he will always recover as completely as possible from every ailment or accident from which he may have suffered, and not allow it to drag on in a chronic condition.

If one would diminish the number of the terrible cancers seen in early years, the accoucheur must have more patience at the birth. Where labour has been difficult and strain or congestions have arisen in consequence, their local treatment, as well as the treatment of catarrhal affections and syphilis or diabetes, becomes of special urgency. Strain appears to be very important as predisposing to sarcoma, in the presence of one or other of the constitutional affections just noted.

The prevention of cancer naturally depends on the avoidance of its causes. In the pamphlet first printed in 1906, "Cancer: a working theory for its prevention and cure," I submitted a list of what I regarded as the causes of cancer. Experience and study since that time have confirmed my views as to the justice of that appreciation.

There are certain general remarks which should be insisted on:—

(1) *The home*.—Damp, sunless homes are fruitful causes of rheumatism and anæmia; therefore of cancer. The so-called "cancer-houses" are houses of this type. It is ridiculous to speak of the *mystery* of "cancer-houses," wherein one inmate after another falls a victim to cancer. The mystery would be, if they did not. The ideal home is one dry and sunny, allowing of the free circulation of fresh air around and in it *by day and by night*.

(2) *Attention to the teeth and efficient slow mastication* are perhaps the most important factors of all in the avoidance of cancer. By these means (as Mr. Fletcher has shown) much less food suffices for the upkeep of the body and the output of work, with the consequence that much less strain is thrown on the excretory organs. Scarcely less important is attention to the *bowels*. *Constipated bowels* are an undoubted cause of cancer. Although I have strenuously opposed the so-called parasitic theory of cancer for reasons already submitted to the judgment of the reader, nevertheless, it appears to me certain

that the toxines arising from decayed teeth and constipated bowels are directly or indirectly responsible for the genesis of cancer.

(3) *Diet*.—The fact that Jews suffer so little from cancer should furnish precious information for our guidance. The secretary of an important insurance office told me that he had never known more than one Jew suffer from cancer, and he was a renegade. Under any circumstances, pork, bacon and ham—perhaps on account of the salt employed—must be regarded with suspicion. The viscera of animals—brain, heart, liver, kidneys, tripe, sweetbread—as also blood, are apparently all rich in “purins” (immediate antecedents of uric acid): they also, therefore, are suspect.

(4) *The abuse of alcohol* is most certainly a fruitful cause of cancer, beer being especially suspect. To the evidence already furnished (page 23) one may add the comparative excess of mortality from cancer in beer-drinking Bavaria (as compared with the German Empire as a whole), mortality superlatively predominant in the case of those classes most prone to an immoderate consumption of beer, viz., brewers and publicans. That the abuse of alcohol is causative of cancer was suggested many years ago, but, it was Sir Arthur Newsholme who first proved that even the *temperate* use of alcoholic drinks increases the tendency to cancer, a fact proved by the statistics of a life-insurance office having two departments, one for total abstainers and the other for moderate drinkers.

(5) With regard to *tobacco*, all the evidence available points to the disastrous effects of its abuse, although probably all of us know individuals who abuse tobacco with apparent impunity.

(6) *Exercise*, especially such as is designated under the term “breathing exercises,” is of the greatest importance for the aëration of the blood and for combating that passive venous congestion which certainly plays a dominant part in the genesis of cancer. How much cancer of the breast, of the uterus, of the intestines and liver is caused by *tight-lacing* one has no means of establishing, but probably the numbers would astound us all. Cancer is a disease especially of advancing years, and as the years multiply one is tempted to allow oneself to grow stiff from inaction. It is for this reason that the breathing exercises recommended by Mr. J. P. Müller in “My Breathing System,” appear to me of importance to all who desire to avoid that chief antecedent of cancer, viz., deficient oxydation of the blood and tissues. *But strain and fatigue must be religiously avoided.*

There are two exercises which I regard as improvements on those recommended in Mr. Müller's book, because they represent alternations of *complete* flexion and extension.

(a) In the position of expiration the clenched fists are apposed at the upper part of the breast-bone below the chin, the head being slightly bent forward and the elbows pressing against the side of the chest so as to empty as completely as possible this cavity of the used-up air. From this position the arms are extended sideways horizontally, the palms of the opened hand being directed upwards and the thumbs directly backwards, the head slightly inclined to the rear, a full inspiration being meanwhile effected through the nostrils, the mouth firmly closed.

(b) The position of complete expiration is one of crouching, the heels raised from the ground and the closed fists resting on it. The trunk is thus bent forward on the thighs with the result that the diaphragm is pushed up by the abdominal viscera. From this crouching attitude the body is raised during inspiration to an upright position, the head slightly thrown backwards, and the arms raised as high as possible above the head, the palms of the open hands turned forwards.

By the two exercises above recommended alternate flexion and extension appear as complete as possible, its physiological effect on internal organs and blood vessels having already been animadverted on (page 84).

(7) The correlative of exercise is *rest and recreation*, conditions absolutely essential for the maintenance of the sound mind in the sound body. Herein, perhaps, we have a further indication why the Jews suffer so little from cancer. It is said that even a metallic spring regains lost elasticity after a rest and that telegraph wires carry their messages better after the comparative rest of Sunday.

(8) *Sexual excess and irregularities*.—There can be no reasonable doubt in the light of the teachings of statistics (see page 95) that, not only do the sexual organs themselves become cancerous from sexual excess and irregularities, but organs far off, such as the tongue and larynx, may also suffer. This assumption is confirmed, not only by physiological considerations, but by clinical experience. Here too we may admire the far-seeing wisdom of that greatest of all hygienist legislators, Moses.

The importance of hygiene in relation to cancer becomes intensified naturally when one is dealing with a patient already the subject of the disease.

THE RATIONALE OF CANCER-CURE.

In general terms it need scarcely be said that all the suggestions made from the standpoint of hygiene with regard to the *prevention* of cancer apply with even greater force to the *rationale of its cure*.

The cancer patient who desires to be cured has to lead a life, more or less, of renunciation, and the sooner he recognises this the better. He can himself see that all nourishment in excess of that strictly necessary for the maintenance of vital functions at a normal level must go to feed the growth. If he has been a stout "trencher-man" he must devote more care to mastication, when he will certainly require less food—to his great advantage. The key-stone to cancer diet is strict avoidance of the few things really objectionable and the temperate use, directed by his own experience, of all other good things. Loss of weight is not in itself, therefore, an unfavourable sign.

The question of drink is a thorny one. Milk as a beverage is difficult of digestion and objectionable in the sense above indicated. Lemon juice with water is the ideal drink. The *abuse* of tea, coffee and cocoa is a serious cause of cancer. Statistics suggest it, science explains it, clinical experience confirms it. Apart from the question of the tannin in tea and coffee acting as a "sensitizer," the alkaloidal constituents of these articles are near antecedents of uric acid. Tea and cocoa certainly tend to constipate the bowels, and any patient suffering from rectal trouble may easily convince himself of the consequences of taking strong sugared black coffee. Maté might be less objectionable than the more widely known beverages, but I cannot speak from experience. From the point of view of practical life the least objectionable beverage is probably the very moderate use of China tea infused for not more than five minutes as a maximum and *then poured off the leaves*. It may be taken with milk, or better still with lemon-juice.

There are but few articles of diet absolutely harmful to the cancer patient: they are indicated in the summary hereunder. There are other articles which the experience of the patient or the nature of his case may indicate as prejudicial. Let all such articles be avoided as far as practicable. For the rest, the only rule necessary is this:—Let the meals be served at regular hours, let them be as *simple* as possible, favouring a fruitarian and vegetarian diet rather than a flesh one. But it is desirable to avoid fruit as a dessert to a meal at which meat has been taken.

METHODS OF TREATMENT.

Although I have treated patients with X-rays and intensive discharges of high-frequency electricity,—at one time I had three apparatus,—and had several very successful results, the first dating from Christmas, 1900, yet my ambition has been to cure cancer by means available to every medical practitioner. So far, therefore, as electricity is concerned, I have for some years past returned to the use of the constant current, the probable value of which in the treatment of cancer I suggested in an article, “The Constant Current in the Therapeutics of Gynaecology,” published by the Obstetrical Society of London in their Transactions for 1888. On the experiments recorded in that article was founded the treatment known as kataphoresis—now called ionization—as well as that by electrolysis.

No case is referred to in the following pages that has not been treated on lines (varying according to the case) which may be summarised as follows:—

(1) *The Constant Current.*—It has to be remembered that the anode is astringent and the kathode relaxing. In 1888, whilst making observations on the influence of a constant electrical current on very large chronic ulcers of the leg, it was noted that under the positive pole the ulcer took on the appearance of chamois leather, whilst under the negative the relaxation of blood vessels was such that the part looked as if sprinkled with red currant jelly. In the paper cited in which these observations were published I first expressed the hope that cancer “beyond the reach of the knife” was nevertheless still remediable.

The current that I most frequently use is one of 40 to 50 milliampères applied for 20 to 30 minutes. The electrodes vary in size according to the necessities of the case and are covered with a layer of about one-quarter of an inch of modelling clay: they are warmed before being applied to the body. Generally speaking, the anode, or positive, is applied over the cancer and the kathode or negative to the spine in such wise as to allow of the most direct passage of the current according to the disposition of the nervous supply.

It appears quite clear that the passage of a current in the manner above recommended must have precisely the same effect as was observed in the ulcer on the deep parts supplied by branches of the same nerves. My observations showed that the passage of a constant current in one arm had a precisely similar

effect on the pulse as recorded by the sphymograph in *both* arms. The valuable observations of Dr. Henry Head become of great practical interest from this standpoint.

In the paper cited I showed that the passage of the current increased the excretion of common salt in the urine. Since that time one has learnt that there is an excess of salt in cancer. Hence in its treatment the utility of the constant current finds further justification.

The remedies of which I can speak with confidence from the standpoint of "ionization," are bichromate of potash, iodide of arsenic and sulphate of copper. It must be remembered that acid is produced at the positive pole, which means that the base is driven into the body. Conversely, at the negative pole, alkali is found, with the consequence that the acid finds its entrance into the system. Therefore, if it be desired to ionize both acid and base the current must be reversed.

(2) *Radiant Heat*.—This has been used by concentrating the radiations from a lamp of high candle-power by means of a parabolic reflector on the part affected. But, according to my theory of "dyskinesis," the nerves should communicate to internal parts vibrations of corresponding amplitude and frequency to those received at the surface. One remembers, in this connection, the observation that the temperature of the other hand falls if the one be immersed in cold water.

(3) *Pressure*.—This method of treatment for cancer of the breast was adopted on the lines advocated by Dr. Walshe of University College Hospital in his work on "Cancer." It consists in the bandaging of the chest *secundum artem*, elastic pressure on the tumour being exercised by a pyramid of amadou. The enlarged veins seen in a cancerous breast are supposed to have given the name "cancer" to this affection, because suggesting to minds of vivid imagination the claws of a crab. Such dilated veins at least confirm what has been said as to venous congestion being an important factor in the aetiology of cancer. It is important, however, to bear in mind that the pressure of the bandage on the chest limits the breathing capacity, and might become a danger in the presence of an inflammation of the lungs.

(4) *Injections of Oxygen*.—As already repeatedly stated, oxidation appears to me to be the keystone of cancer-cure. When, therefore, I heard from Dr. Dardel, of Neuchâtel, an eminent specialist for nervous and mental diseases, that he was employing injections of oxygen with very marked benefit, I immediately gave the method a trial and was satisfied as to its practicability. The technique is very simple. Two wide-

mouthed bottles are provided with the necessary attachments to allow of the following proceeding: One bottle is filled with water, the other is empty excepting for the contained air. Into the bottle filled with water oxygen is pumped to the amount, say, of three ounces fluid capacity, thus displacing water to this amount into the bottle previously filled only with air. A hypodermic needle is now attached to the rubber tube connected with the oxygen-holding bottle, and the pump is transferred to the other bottle, the pressure exercised by which forces the water back into the first bottle, from which the contained oxygen is now driven into the subcutaneous tissues. The method is painless but for the prick of the needle.

I should like to place on record an observation reported to me by Dr. Dardel which suggested an analogy to my own observations in regard to the genesis of cancer. A patient who had suffered from attacks of migraine lost them as her mental state became so deranged as to necessitate her being put under special treatment. The return of the attacks of migraine was the harbinger of restoration to her mental equilibrium!

(5) *External Remedies*.—One used to be taught that remedies applied externally could only affect internal organs if there existed adhesions establishing a vascular connection between the affected organ and the surface. But what we know of the distribution of nerves as influencing the conduction of electrical and heat vibrations makes us believe that all remedies applied to the surface may have corresponding effects on organs situated centrally. Therefore I have great confidence in outward applications. As to liniments I pin my faith to iodine as a tincture of 5 to 10 per cent., or to its solution in spirits of turpentine. To this is added salicylate of methyl diluted or not with oil.

The ointments from which I have received most satisfaction in the treatment of cancerous wounds are white precipitate and iodide of lead in 5 to 10 per cent. strength, prepared by absorbing recent precipitates in lanolin which is then mixed with white vaseline. An ointment of pure oleate of soda also makes a useful ointment similarly prepared in like strength.

(6) *Animal extracts*.—Doubtless there is very much more to be known under this heading than I am at present able to communicate. We have seen (page 123) that groups of different cancers are associated with diseases in which perverted metabolism of one or other of the four food classes—salts, carbohydrates, nitrogenous foods and fats—is a leading feature. A daily small dose (say half a grain) of *thyroid extract* can do no harm and may do a great deal of good. The

elimination of superfluous calcium salts by means of *citrates* is in the great majority of cases desirable. Raw meat juice is sometimes found of great service where the heart is feeble. Where fat-metabolism is faulty, pancreas and bile are indicated. In the presence of goitrous enlargement or of diabetes, the disinfection of the intestinal canal is of paramount importance.

(7) *Internal remedies*.—These in my opinion are for the most part best administered by hypodermic injection. I wrote as early as 1906 of the value of the essential oils in the treatment of cancer and have been very satisfied, for example, with the results attending the injection of *oil of gaultheria* diluted with sesame oil where the cancer depended on rheumatism. In scirrhus an occasional injection of *thiosinamine* is indicated. Iodine in one form or another is probably the great remedy. In iodide of arsenic there is but little arsenic and much iodine: it is the remedy from which I have had the most satisfactory results, when combined with an equal dose of nitrate or formate of strychnia, of each one twenty-fifth of a grain. In cases of cancer of the breast one may add one two-hundred-and-fiftieth of a grain of sulphate of atropine, or one grain of lactate of quinine in cases where toxines appear to play an important rôle. With regard to an effort to damage the vitality of the cancer cells, a solution of 0.7 per cent. of oleate of soda, as recommended by Dr. Webb of Melbourne, appears to me the most satisfactory. The dilution of the hypodermic injections is such that the dose is about 4 ccm.

The most satisfactory laxative is thio-sulphate of soda, the salt familiar to all photographers as "Hypo."

Where sexual excesses or irregularities have played a part in the causation of the cancer, the value of bromides and of camphor should not be forgotten.

It may be convenient to summarise the headings of what has been said. This may be done as follows:—

HYGIENIC.

(1) Free ventilation by night and day. If it were necessary to put the cure of cancer in one single word, I should still say, as in 1906, "oxidation."

(2) Porous woollen clothing, as chills are deadly.

(3) Free action of the skin, favoured by warm baths with soap, followed by a cold wash down. Strict attention to the bowels, two actions in the day better than none. Keep the kidneys well flushed out.

(4) Temperance in *all* things, even in tea-drinking.

(5) Avoidance of mental excitement and overstrain. Cultivation of equability of spirit and confidence in cure.

(6) Avoidance of passive congestion from constricting bands, for example, a tight collar in cancer of the face, or of the tongue; or a tight waist-band, in cases of cancer of the abdominal cavity or of the lower extremities.

(7) Diet is very important. In addition to what has been said under the head of prevention, entirely avoid all the viscera of animals, such as brain, heart, kidneys, liver, tripe, sweetbread, as well as the blood; also shell fish, pork, ham and bacon, high game and mushrooms.

Take very little salt, the less the better; avoid spices, condiments and vinegar.

The only safe rule with regard to alcohol is to take none. Beer, from the point of view of cancer, is the most objectionable of all. Avoid strong black coffee (especially sugared) and chocolate.

Pastry is objectionable for the same reason as thick soups and sauces, namely, that fatty acids have been developed in the course of cooking; hence frying is also objectionable.

Pay great attention to the teeth, and masticate carefully.

With regard to *tobacco*, statistics suggest obvious precautions. In men, the death-rates from cancer of the lip, of the tongue and of the mouth are more than twelve, eight and six times heavier than in females. In the case of cancer of the pharynx and throat, of the œsophagus, and of the larynx and trachea, the death-rate of males is more than triple that of females.

CURATIVE.

It is to be hoped that I have made sufficiently clear why I maintain that there can never be "*a cure for cancer*," that is to say, that there can never be a unique specific remedy for cancer, but that the remedy must vary with the cause. There are general lines of treatment, however, which it is useful to consider.

(1) *The constant current.* This may be used for "ionization," in cases where the tumour can be so attacked directly. It may be used for controlling the circulation in the tumour, by way of the distribution of nerves. It may be used for promoting the excretion of salt from the body, as was demonstrated in my experiments in 1888.

(2) *Radiant heat.* Clinical experience has justified the

use of this remedy. Theoretical considerations induce me to believe that the action of heat might be even more effective, after a preliminary application of cold. I have not yet had an opportunity of putting the suggestion to a practical trial.

(3) *Pressure.* This is most effectively employed in the case of the breast, or skin, where pressure against underlying bony structures may be exercised. It should be elastic.

(4) *Injections of oxygen gas.*

(5) *Remedies applied externally.*

(6) The administration of *animal extracts* to supply any deficiency observed, or to combat any constitutional disorder referable to that deficiency.

(7) Remedies most conveniently administered by *injection* or by *suppositories*. They are used to combat the constitutional malady causative of the cancer, and should be combined with a remedy having physiological affinity with the part affected.

For this reason, the study of therapeutics becomes of the utmost importance to everyone interested in the cure of cancer, not by experiments on animals, but by observations on oneself. It is in this way that I was able to discover a specific for foot and mouth disease in cattle, although I have never seen a sick beast. My specific injection against influenza and pneumonia was equally successful.

It is to be hoped that such new knowledge will have its repercussion in the more successful treatment of certain cancers that have, up to the present, proved recalcitrant to treatment.

The great distinguishing feature between operation and what I venture to call the *rational* treatment of cancer is this:— In the latter case every day may bring to light some fresh observation or some new discovery of the greatest human interest. On the other hand, every advance in surgical technique has been characterised by more and more disastrous consequences.

It remains now for me to submit for the reader's consideration the evidence on which I rely to prove the *curability* of cancer without operation, or even after operation has failed.

THE CURABILITY OF CANCER

The Evidence of Clinical Cases.

CANCER OF THE FEMALE BREAST.

Mr. T. Nunn, at one time Surgeon to the Middlesex Hospital cancer-foundation, wrote:—

“ Probably a better opportunity of studying the progress of the disease (cancer) is afforded when it attacks the breast than when seated in any other organ, as,—for a time, at least,—no vital function is deranged, and the cancer process is, so to speak, immediately under the observer’s eye.”

Moreover, cancer of the female breast is of great importance numerically, seeing that in 1919 there died from cancer of this organ in England and Wales 4,309 victims. As to diagnosis, I rely on the signs recorded by Sir Lenthal Cheatle as diagnostic, namely, a single swelling in one breast with retraction of the skin and flattening of the normal curve of the breast over the site of the tumour. In some cases to be shortly reported, there were, in addition to the above signs, hard discrete glands in the axilla and even swelling of the arm, signs which admittedly exclude all doubt as to the nature of the malady and suggest a very unfavourable issue for the patient *from the point of view of surgical intervention*.

There is one aspect of this question which should not be passed without notice. Even in such cases as surgery may claim as successful operations on the breast, there remains the terrible mutilation. How bitterly the patient (and perhaps the husband) laments the tragic loss of what, perhaps, was regarded as her chief beauty, one may appreciate without being a psychological specialist.

How far the loss of the breast may likewise be prejudicial from the point of view of the “wholth” of the body,—its health in fact,—is another question. It is very possible that important changes in nutrition may result therefrom.

The Registrar-General has put on record the fact that secondary cancers are registered more than three times as frequently in the case of breast cancer as in other sites, the liver alone excepted as being itself the seat of secondary cancerous deposit from so many sources. As it is the secondary cancers which are the principal cause of the suffering of cancer patients, the urgent need of non-operative treatment for the much-operated female breast should need no advocacy.

Case 1.

Scirrhus cancer of the Breast, in which a hard nodule remained after treatment, without detriment to the patient.

This patient was first treated at the North West London Hospital, where she was seen by Drs. Shaw-Mackenzie, A. Pirrie and James Wigg; and later in my nursing-home.

Aged about 54, she had had for four years a lump in the left breast which occasioned her no inconvenience until after having received a knock on it, since which she suffered much pain which seriously interfered with her work. I saw the patient first in September, 1903. The tumour was obviously a large scirrhus: there were enlarged glands in the armpit and two columnar processes extended downwards and inwards towards the liver. Both the patient's parents had died from cancer.

I advised the patient to submit immediately to operation. This she emphatically and persistently refused to do. If my reader is surprised at my recommending operation, it must be remembered that I have not arrived at my present convictions by way of supernatural revelation, but by slowly progressive experience and study. It is very probable that this case tended to form my opinions, seeing that her subsequent history was so satisfactory. The patient's tumour diminished from the size of the fist, until only a nodule the size of a bean remained, which was probably as innocuous as an embedded bullet, and merely proved the accuracy of the diagnosis. If the lump had entirely disappeared, it might be argued that it was of inflammatory nature. The enlargement and hardness of the glands disappeared, as did the columnar processes above referred to. The patient lost all pain and was able to resume her household duties. She regained nine pounds in weight. Constipation was the only symptom of which she complained, with occasional giddiness and spots before the eyes.

From time to time she reported herself to me, so that I know she was doing well at the beginning of 1910, that is to say, more than six years after I first saw her.

Since returning to England, I have tried to get into touch with this patient, but have found that no one knew her at the address that she had given. It is, I believe, no unusual experience to find that the address given by hospital-patients is not exact. Anyhow, I could do no more to ascertain her subsequent history.

Case 2.

Carcinoma of the breast, which completely disappeared under treatment, the patient remaining in good health 12 years afterwards.

This lady, when aged about 45, had a knock on the right breast, Easter, 1907, but noticed nothing amiss until Whitsuntide, when she discovered a lump. Her subsequent history is briefly reported by herself in a letter dated 18th February, 1922, the material parts of which read as follows :—

“It is nearly ten years since you last heard from me, so I will recall myself to your memory by recounting my ‘case.’ I had a lump in my right breast, and as it did not improve under home treatment, I went to my family doctor, who advised immediate operation, but I strongly objected, and went to Dr. A., who counselled diet, but no operation. As, after some weeks, I could see no improvement, my brother suggested consulting you, whose lectures he had read. I did so, and eventually decided to go into your nursing-home for treatment, and I am thankful to say, after seven weeks I returned home cured, and have had no recurrence. This was 12 years ago.”

Case 3.

Tumour of the breast which shrank to such a degree under treatment that the patient refused to believe in its malignancy. Renewed growth after a few years.

Some years ago a relation of my own, about 35 years of age, came to me for advice with a swelling in her breast. I took her at once to a surgical colleague, Mr. F. Durham, who advised immediate operation. She begged so insistently, however, that I should try treatment on the lines which had been successful in other cases, that I consented. After a time I sent her back to my colleague, who wrote me thereon as follows :

“I am very glad to see Miss D—— again, and to find the swelling in the breast so much reduced in size. I certainly think she had better continue your treatment for a time, at any rate. A good deal of the infiltration has been absorbed, but the central part of the breast still feels hard, and there are some little irregular, shot-like nodules about—I suppose small cysts. No doubt there is some cystic degeneration with inflammatory infiltration, but whether or no

there is some sarcomatous growth as well is rather doubtful. I should like very much to see her again, or hear of her again, when you think fit."

It is scarcely necessary to point out that to speak of "inflammatory infiltration" is to beg the whole question.

The patient after some further applications felt so well that I could not persuade her to continue the treatment for the requisite time. And she kept well for some years, at the end of which period, unfortunately, there appeared to be a re-awakening of the malignant process in the breast which I had done my best to warn her was not cured.

The reader will readily perceive that, if treatment has succeeded to such a degree as to deceive the patient in regard to the malignant character of her trouble, and the cancer re-crudesces on the premature suspension of such treatment, there is yet another link forged in completing the chain of evidence of the *curability of malignant processes by non-operative treatment*. And the practical lesson of such a case is that the patient should be kept under periodical observation for an adequate time after treatment has been suspended.

Case 4.

Both breasts removed for cancer. Nearly six years after the second operation there was a recurrence near the scar. This was kept in check for two years with such success that the patient during this time appeared as well as ever. Treatment by X-rays was followed by secondary cancer in the spinal column.

This lady, born in 1850, had suffered from rheumatism since she was 17, and from time to time had had attacks which were ascribed to gout, although these had been very little in evidence since 1900. In October, 1897, she discovered a tumour in her left breast, which was removed by a well-known surgeon in the course of the following month. Two years later Prof. Rossier and Vulliet discovered a swelling in the right breast, and the patient returned from Lausanne to be under my care. By April, 1900, all appearance of this swelling had disappeared under simple medico-physical treatment, which unfortunately was not continued sufficiently long. The following year there was a suggestion of recurrence, and the patient elected to undergo operation without further trial of electricity and other remedies. In April, 1901, I operated on her in the usual way. And she remained in good health and free from recurrence for upwards of five and a half years. In December,

1906, whilst in Brussels, the patient became conscious of a small, painful swelling attached to the rib-cartilage in the neighbourhood of the scar. But it was not until February, 1907, that she came under my care for treatment. Since that time, whilst under treatment, the growth has invariably diminished; there have been times when I thought it had absolutely disappeared. Pain has been invariably removed by treatment, even when it had been severe immediately beforehand.

No stronger clinical evidence in favour of the treatment pursued could probably be found than that afforded by the above-cited case. Here is a patient in whom the constitutional tendency to cancer is not merely evidenced by family history—the mother died of cancer—but by the early affection of the second breast after the amputation of the first. Although it is matter of common experience that each successive recurrence is more malignant than that preceding it, yet for two years this last recurrence had been kept in check in the most remarkable manner. If the growth had entirely disappeared, it would of course be open to the sceptic to deny the cancerous nature of the malady. This has, in fact, always been the strong point of surgery—if a tumour has been successfully treated by non-operative measures, then it was not a cancer! But here such an argument is not possible, seeing that time and time again the most marked improvement has occurred under treatment, with a *recrudescence in the intervals*.

On the advice of a relative, the patient, at this stage, consulted the surgeon who had operated on the first breast. As he had never known a recurrent cancer kept in check in such a manner, he was inclined to doubt the malignant nature of the growth, and suggested X-rays. This treatment was followed by symptoms of secondary growths in the spinal column, and the case had a fatal termination.

Case 5.

A case of typical Scirrhus of the Breast, completely and permanently cured.

A lady about 40 years of age, who, without any very obvious cause, appeared for some months to have been losing health and strength, accidentally discovered a lump in one breast. This is, perhaps, as Sir Astley Cooper pointed out, the most frequent course in cancer of the breast—and that such was the nature of the present tumour I was fully persuaded.

I advised the patient to try electricity before having recourse to operation. After about thirty applications the tumour entirely disappeared, and, so far as I know, never recurred, the patient dying as the result of an accident some fifteen years later.

Case 6.

Scirrhus Cancer, in which a nodule persisted after treatment, but subsequently disappeared during pregnancy.

This lady, who was about 30 years of age, detected a lump in her breast at a time when she appeared considerably out of health. Thirty applications of the electrical current failed to entirely remove the last remnant of the growth. Her general health was, however, so much improved that she would not consider the question of operation.

Now here comes the interesting point about this patient. With a nodule still remaining in the breast, although insignificant in size compared with the original lump, she married, and shortly afterwards became pregnant. Under the physiological stimulus of this condition, the lump, I understand, completely disappeared. Unfortunately, I never saw the patient again, as she took scarlet fever after her confinement and died.

Case 7.

Advanced carcinoma of the right breast, adherent to the skin and chest walls. Indurated glands in the arm-pit and much œdema of the arm.

This patient came to see me in the summer of 1912, being the first patient I treated in Switzerland. In spite of the serious nature of her case, she made such rapid progress, that, by the beginning of September, her cure seemed assured. At the end of this month, however, we had to submit to *force majeure*, and treatment was suspended. After an interval of some months, she had a very serious relapse. A metastasis formed at a short distance from the original tumour, the glands took on renewed activity, and the swelling of the arm greatly increased. The general health suffered seriously and occasioned her friends much concern. Such were the circumstances under which I went with the patient to another canton, in the hope of saving her from impending death. The result of the treatment may be judged from a letter written by a Neuchâtel doctor, Dr. Henri Stauffer, dated 3, xii., 1918, an extract from which reads as follows:—

"Yesterday I saw Mlle. O., who was attacked several years ago with cancer of the breast, for which your treatment appears to me, if not curative, at least in the highest degree gratifying, to judge by the state of the patient after six years of life under normal conditions, that is to say, without pain, appetite and general health fairly good, and diminution of the phenomena of infection (disappearance of glands from the armpit, neck, etc.). If ever I had to treat cancerous patients, I should recommend them, if an absolutely radical operation is impossible, to put themselves under your treatment."

This patient's medical history was confirmatory in a very remarkable manner of the theory propounded in the present essay, namely, that a cancer may be excited by the concentration of some constitutional "dyscrasia" on a damaged organ or part of the body. This lady had suffered for many years from frequently recurring attacks of megrim of great severity. She received a blow on her breast from the revolving handle of a machine. To her great surprise, as a cancer developed in her breast, her headaches disappeared. In other words, the "dyscrasia," which had formerly manifested itself by periodical nerve-storms, when concentrated on a damaged focus in the breast, excited a cancer.

Case 8.

Another case of tumour of the breast is reported on by Dr. Stauffer in the following words:—

"Furthermore, I examined the other day with great care Mlle. D., treated also by you last year; here I do not regard the case as one of cancer, but rather of sarcoma. I base my opinion on the medical history and on the actual condition; perhaps I am mistaken, not having seen the patient before her cure (or at least before her great improvement); anyhow, if in addition to cancer, you have also succeeded in curing a case of sarcoma, this would be still more satisfactory."

This letter from Dr. Stauffer was written after I had left Neuchâtel. The patient had written me with great enthusiasm as to her betterment. Unfortunately, some months later, she was taken with symptoms referable to the appendix, and was hurried on to the operating table. It did not surprise me, therefore, to hear that after a short interval, the mischief in her breast was re-awakened. Operation was urgently recom-

mended, and the patient consented. The after-history may be as satisfactory as my case reported on page 151. Let us hope so! For the moment, the interest lies in comparing the report of Dr. Stauffer with the subsequent action of the surgeon, as indicative of his diagnosis.

Case 9.

A case of extraordinary malignancy, the patient having been operated on five times. Recovery was checked by severe mental strain, but recommenced somewhat later, and persisted for a time after leaving my care.

This lady, when 41 years of age, in the spring of 1904, discovered a lump at the upper and outer part of her right breast. In January, 1905, the whole breast was removed, and the tumour was reported on by the pathologist of the Pasteur Institute of Paris as benign in character. Although she had a good convalescence, four months later a nodule appeared in the scar, which was removed in the middle of June by an operation of such an extensive character as to require an hour to an hour and a half for its performance, and six weeks for the parts to heal. In September of the same year a fresh nodule appeared in the scar of the arm, which nodule was removed by a small operation which took but fifteen minutes. In the following month (October, 1905) fresh nodules sprouted, and the patient having commenced a course of treatment by animal extracts, underwent in the middle of February, 1906, a "Halstead's" operation of so extensive a character that she was more than three hours under the anæsthetic. Treatment by the animal extracts was recommenced, and of these injections the patient had had fifteen subsequent to the operation, before fresh nodules appeared in Easter week. The injections were still persevered with, the patient having had sixty in all, before coming to London, in June, 1906.

There does not appear to be the slightest doubt that these injections were of very great service, as their remission was attended by very rapid progress of the mischief. A fortnight's course of treatment in London had but little effect, and my colleague generously placed the patient under my care. He has himself recorded the local improvement and an increase of eight pounds in weight, the former having been described by him in a letter as "marvellous." Unfortunately, this patient was exposed to a number of highly disturbing factors (in addition to an attack of influenza), which tended to depress

her mental and physical vitality. The value of the treatment, however, is borne witness to by its ability to control the progress of a case of such extraordinary virulence as that sketched above, the improvement having been of such a remarkable character as to have made me believe at one time in a rapid cure.

Three weeks or so after leaving my care I received the following item of news regarding this patient:—

“My wife’s general health continues to be as satisfactory as possible. The appetite is good; and her *morale* as well; and, up to the present, no pains. It appears to me that the enlargements, too, have some tendency to diminish.”

Unfortunately, this lady, who was a resident of Paris, was subsequently persuaded by well-meaning friends to undergo a much-advertised serum treatment. In less than ten months from the date of the above letter she had passed away.

The reader will observe that the foregoing case illustrates the observations of Sir James Paget and Sir Samuel Wilks, as recorded on page 64. The tumour was certified as innocent by a most competent authority. Nevertheless, although the whole breast was removed by an extensive operation, cancer developed in a most malignant form.

Case 10.

Advanced carcinoma of the breast adherent to the skin. Profound deterioration of the general health.

This lady was treated with very gratifying and, I believe, permanent benefit. She addressed to me, some three years after her own treatment, a letter dated June, 1916, which is of special interest as showing that a celebrated Swiss surgeon and a well-known specialist in Roentgen Rays have both recommended their relations to undergo non-operative treatment. The material parts of the letter read as follows:—

“My cousin has now begun her treatment under you, which gratifies me for the sake of you both. My brother, Dr. R., as well as I myself, strongly recommended her to put herself under your treatment.

“Now I received yesterday another letter from Basle, from the mother of that Dr. C., of whom I spoke to you once. He was then in Berne, but is now established in Munich. Frau C. writes me, that her son has informed her, that I have been entirely cured of cancer by Dr. Shaw, in Mühlehorn. Frau C. would like to know, if you devote

yourself also to the cure of goitrous swellings. I presume that in Frau C.'s case cancer is suspected and that it is for this reason that her son has spoken of you."

Since returning to England, I have unavailingly tried to bring the subsequent history of this patient up to date, but a fortuitous circumstance apparently allows me to do so. The wife of a pastor in Canton Berne writes me this month (May, 1922), asking if anyone in Switzerland is carrying on my work, as she had heard of my cure of her distant relative (the lady whose case is here noticed), and my correspondent fears that she herself is suffering from cancer.

Case 11.

Recurrent cancer subsequent to operation on the breast undergone when the patient was upwards of 80 years of age. Treatment successful. No further recurrence before her death from apoplexy nearly two years later at the age of 85.

This patient was a wonderfully preserved old lady upwards of 80 years of age when she underwent an operation for cancer of the right breast. After a very short interval (some three or four months), she began to suffer severe pains on movement of the right arm; nodules were, moreover, detected in the remaining breast, the removal of which was advised.

As the patient refused further operative intervention, she was brought to me. At this time, she had a largish mass of hard deposit beneath the right collar-bone and hard nodules of considerable size in the left breast.

Under treatment, the metastasis beneath the right collar-bone completely disappeared, as did the pain. Some trace of the nodules in the left breast was still present, however, at the time I saw her last. As to her subsequent history, I must rely on correspondence and on the verbal report of the lady who accompanied my patient on the first visit she paid me. Under date, June 1st, 1918, the patient wrote:—

"I must no longer delay to give you news of your old patient, whom you treated with such devotion. Until now I am very well, and if it were not for the hypodermic injections which I continue four times weekly, I should forget that I have been so gravely attacked. It is unnecessary to tell you that I am a wonder to all my friends and acquaintances."

This old lady died nearly two years afterwards from

apoplexy without having suffered—so I understood from the lady who first brought her to me,—any further recurrence of symptoms referable to cancer.

Case 12.

Patient who lost patience in non-operative treatment, was operated first in one breast, and then in the other, and remains in good health 24 years after the second operation.

The inclusion of this case is, perhaps, open to criticism. This lady was first treated by the methods to which I now definitely pin my faith. She lost patience and desired an operation. I removed the breast, therefore, but not with the "thoroughness" of the modern operation. Within a year she had a cancerous tumour in the second breast, which was removed in the same way as the first. When asked to operate a third time for presumed recurrence in the armpit, I refused, a refusal amply justified by the patient's subsequent history. She has had no further symptoms attributable to cancer, since the second operation some 24 years ago.

This case is a logical answer to current surgical dogma, that a cancer should be removed without the loss of an hour. What should be treated without delay are *the constitutional conditions on which the cancer depends*. When these have been effectively dealt with, then is the time to consider the ablation of the tumour—should there remain any to be removed.

Case 13.

Ulcerated scirrhus cancer of the breast treated by ionization of arsenic iodide. (Plate 7.)

This lady, the wife of a doctor, was treated by the ionization of arsenic iodide, the cancer being already in a state of ulceration. The photos. in Plate 7, tell their own tale.

A. shows the cancer exposed in a cavity. B. depicts the cavity from which the scirrhus cancer—a mass as hard as bacon-rind,—had detached itself. C., the cavity almost completely filled in, and for the most part scarred over.

When the scarring was complete, there seemed but very little to attract attention to the breast, so little, indeed, that it did not occur to me to make a further photograph.

Unfortunately, at the moment I was leaving for Switzerland (it was impossible for me to return, as I was taken ill in

Plate 7.



the meanwhile), I detected in this patient at a small distance from the scar a nodule, not bigger than a pin's head, which appeared to me suspicious. I, therefore, advised the patient to put herself under the hands of my colleague, Dr. Robert Bell.

It would appear that she did not do so for some time, as Dr. Bell tells me that her malady was considerably more extensive when he saw her. His treatment was, however, so successful that, when she left for South America about a year later, she appeared to be entirely free from all cancerous manifestations.

The reader will understand that there was no occasion to make a wound, the breast being already ulcerated.

Case 14.

Multiple nodules in both breasts and armpits, occasioning severe pain and disablement.

The letter from this patient, dated June, 1913, speaks for itself:—

“ I went to you in August, 1912, because I had in the breasts and armpits little swellings like glands, which caused me horrible suffering. A doctor whom I consulted advised me to go immediately to consult, a surgeon, in order to undergo an operation.

“ The prospect of an operation affrighted me, seeing that my mother had had the same symptoms at 50 years of age, and that she had undergone an operation and had died at 51 from cancer arising from these swellings. It was then that my brother counselled me to come to you.

“ The treatment was most successful, as the pains and swellings completely disappeared after three months' treatment.

“ A goitre for which I had been already twice operated without success diminished after a single treatment some 3 cm.”

This case presents more than one point of interest. I do not believe that she was suffering from cancer when I treated her, but I think it exceedingly probable that her fate might have been the same as her mother's, if she had followed the same course. (See Case 9.) The patient's remark about the goitre is very interesting, as it was about this time that the death-rate from cancer of the thyroid was at its maximum in Switzerland. Thereafter, medicinal treatment by iodine was

Plate 8.

A



B



C



D

re-introduced with very happy results, the death-rate falling to less than one-third in the interval of five years, 1911-13 to 1916-18.

By the term, "a single treatment," I understand the patient to mean, during the interval between her first and second visit to me.

Cases 15 to 18.

Very advanced cases of cancer of the breast treated with temporary success. (Plate 8.)

The case, A is open to the criticism that it in no wise proves the *curability* of cancer, excepting on the supposition that a case less handicapped by the temperament of the patient might have proved more amenable to treatment. It is quoted, however, more especially for certain points of interest.

The history of this case illustrates very strikingly the validity of my theory of the origin of cancer. This lady had suffered from frequent attacks of pain in the feet, which were ascribed to gout. After a blow on the breast she lost the pains in the feet as a lump developed in the breast.

The patient came to me first in 1912 at a time when I believed her case to be very easily curable; but *because I would not promise*, she went elsewhere. Two years later, she returned in such a pitiable state that she could not ask me to treat her, so she said, but would be grateful if I would do so.

For some time her progress was such, that it looked as if success, nevertheless, was to attend the treatment. So striking, indeed, was the improvement, that it was the cause of its failure; for the patient (a lady of extremely nervous temperament) exasperated herself with the idea that her family took no interest in her, and that her recovery was not desired. A severe nerve-storm had a most disastrous effect on the breast. (I have *seen* in another case the *immediate* effect on the breast of momentary anger.) Thereafter this patient never really recovered the ground lost.

After my patient's death, her eldest daughter wrote:—

"I desire to thank you for all the devotion with which you treated my mother, and I believe that it is thanks to your treatment that her life has been prolonged. Since she began your treatment, the terrible crises of pain which caused her such acute and almost constant suffering, occurred at longer and longer intervals, until little by little they ceased."

In another letter the writer expresses her regrets that her mother did not undergo the treatment earlier.

The foregoing case has been quoted as proof of the advantage of doing one's best, even though ultimate success eludes one's efforts. The same remark applies to each of the three remaining cases illustrated in Plate 8.

What a terrible operation would have been necessary to deal with a case such as that indicated under the letter B. How useless operation would have been appears to me certain from the fact that the patient had suffered for many years from chronic gastro-intestinal catarrh with frequently interspersed acute attacks, sometimes of great severity. By non-operative treatment (zinc chloride applied as a plaster), the entire tumour was removed—the patient said "without pain." I shall in no wise be offended if the reader accepts this statement with a certain reserve; it seems reasonable to suppose, under any circumstances, that the pain could not have been severe. Before this patient's death, which her friends ascribed to nervous depression arising from my enforced departure from Neuchâtel (they were good enough to speak of the case as one of "cure"), there was a slight recurrence. The constitutional condition of so many years' standing was probably too strongly developed to be successfully combated.

Case C is remarkable as presenting a complete atrophy of the breast, without ulceration. The dark points seen are pin-head cancers. This lady was already suffering (according to the diagnosis of an eminent German specialist) from cancer of the lung as a complication, before she came under my care. Whilst I remained at Neuchâtel this patient steadily improved, but as with the patient just mentioned, her subsequent course was not happy. Some months later, she was apparently *in extremis*, owing to respiratory difficulties. My advice was sought by telegram. The fatal issue was at that time averted, and the patient was able some months later to go to the French Riviera, where she ultimately died. In this case, also, the friends expressed their sense of grateful appreciation.

In case D there was marked improvement temporarily at any rate; I do not know the ultimate fate of the patient, who had previously suffered from severe hæmorrhages, of which she showed no signs whilst under my observation.

Plate 8 illustrates four types of cancer. Does not common sense seem to suggest that the causation of types so strikingly different cannot be entirely identical, and that treatment should vary with causation?

CANCER OF THE UTERUS.

Case 19.

Cancer of the neck of the womb apparently of a high degree of malignancy. Complete success; the patient remains free from symptoms more than 14 years after treatment was concluded.

This lady came under my care when 45 years of age. She had never been very robust, and two years before her marriage (æ. 34) she had suffered from fissure of the bowel, which had been dealt with by operation. One child was born a year after marriage, and a year later, after taking up bicycling rather too energetically, she began to suffer—and continued to suffer for many years—from symptoms which were diagnosed as due to congestion and displacement of the womb. I first saw her early in 1907, when I failed to perceive any indication of the grave condition which was threatening. After a short course of treatment the patient felt so relieved that she kept away for six weeks. At the succeeding visit my attention was immediately attracted to the extraordinary change which had taken place, and on enquiry I learnt that the classic symptoms of cancer of the neck of the womb had manifested themselves in the meanwhile. I interviewed the husband and explained to him that in my judgment the case was not only manifestly cancer of the neck of the womb, but that it had already made such progress in such a short time as to negative the probability of any good whatsoever resulting from operation.

During the months of June, July, and August, 1907, the patient had nine weeks treatment in my Nursing Home, and for several weeks subsequently visited my consulting rooms twice weekly for further treatment.

The clinical results have been in the highest degree satisfactory, both from the point of view of the patient's symptoms and physical examination. In November, 1908, more than a year after the suspension of treatment, I had the opportunity of learning from the patient, who was consulting me for some other trouble, that she had none of her old symptoms. There was, moreover, a complete absence of any manifestation of her malignant trouble.

In answer to my enquiry, this patient writes me a cordial line to say that all are well. She, then, is in good health nearly *fifteen* years after the illness sketched above.

CANCER OF THE TONGUE.

Case 20.

A case of cancer of the tongue with convulsive spasmodic movement of the arms and legs, due perhaps to cancerous metastasis in the spine. Recovery and continued health seven years later.

This patient, a gentleman nearly 72 years of age, was sent up by his doctor from the country in August, 1907, with a view to consulting a specialist for cancer of the tongue. He was advised by friends to see me first. The patient informed me that for eighteen months he had been losing health and strength, and had fallen off about two stone in weight. About the time that he first perceived these symptoms of failure, he became aware of a little hard swelling on the tongue which at first yielded to treatment, but subsequently returned. More than once temporary benefit attended various medication. But there was no permanent improvement. Shortly afterwards he began to suffer from severe spasmodic movements and pains in both the arms and legs, which started as soon as he became warm in bed, or as he rested on the sofa. These movements were so continuous as to completely destroy his rest, and occasionally so severe that on one occasion he gave himself a black eye. There was not only a very considerable amount of sugar in his urine, but the excessive quantity of water passed, as well as the thirst from which he suffered, showed the case to be one of *diabetes*, and not merely of glycosuria.

The tongue appeared to me so absolutely typical of early cancer that I advised him to consult a surgical specialist with a view to his hearing all that might be urged from that point of view. His son called a few days later to say that the patient and his family had decided that he would not submit to any operation, and desired that I should adopt treatment on lines which had been of great service to another member of the family when under my care.

To make a long story short. The diabetic symptoms greatly improved, but did not entirely disappear. The plaque on the tongue lost its hardness, and was scarcely discernible on inspection. The spasmodic movements and accompanying pains also disappeared, although there have been slight returns since.

Under date February 26th, 1914, a letter reached me

signed by the medical attendant, as well as by the son and daughter, confirming the substantial accuracy of the above cited facts. The letter concludes as follows:—

“In a few months the cancer was quite cured, he is now in his 79th year and has had no return of the trouble. We all feel he is a living advertisement of the non-operative cure of cancer.”

Case 21.

Cancer at the back of the tongue and base of the epiglottis. Remarkable progress: suspension of treatment: subsequent relapse, and finally death.

It seems scarcely possible to imagine a case of more poignant psychological interest than the present one. This lady came to me with cancer of the tongue and epiglottis at their juncture. The diagnosis had been made by the very first authorities in Switzerland. In addition to bleeding, and pain and difficulty in swallowing, there was strongly offensive odour of the breath. Her condition was in the truest sense pitiable.

Here treatment was so rapidly successful, that when the patient requested permission to go home, in order to fulfil some necessary domestic function, I had no hesitation in consenting. *And it was months before she returned!*

After arriving home, the patient had slight fever, which was ascribed to “re-action.” Thereafter, a most remarkable improvement declared itself. To quote the patient’s actual words: “For three weeks, I felt in heaven; neither pain, nor difficulty of swallowing.”

Might not one reasonably imagine that, in view of her previous experience and the happy results of the treatment, this patient would not have lost a single hour in returning in order to resume treatment. What actually happened was, that she delayed *some months*, returning only when she could hold out no longer. Having no clinic, nor means of nursing her at Mühlehorn, I was obliged to send to her husband, suggesting that the patient should return home, be nursed, and have my injections, which had rendered her such signal service.

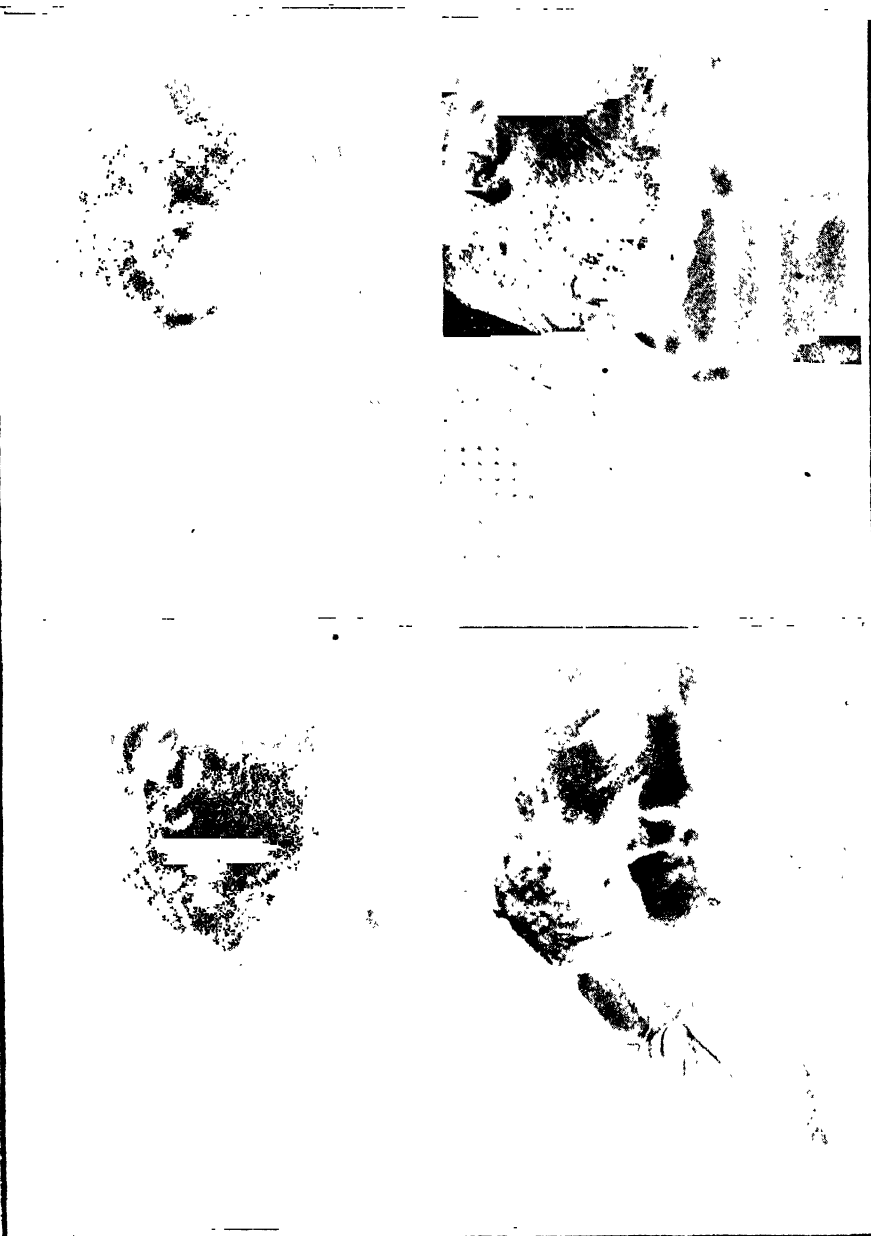
After her return home, the *locum tenens* of the family doctor refused to give her the benefit of a treatment which had already done so much for her, and proposed trying a remedy vaunted in the public press as a novelty, although it had already been tried years ago.

Plate 9.

WITHOUT OPERATION.

12.ix.1916.

30.x.1916.



AFTER OPERATION.

Christmas, 1916.

March, 1917.

CANCER OF THE FACE.

Case 22.

Very extensive cancer of the face; marked improvement under non-operative treatment. Operation undertaken, on erroneous information, for return of pain,—with disastrous results. Plate 9.

An old lady over 80 years of age had suffered for some time from cancer of the face, which was getting steadily worse and was attended with very severe pain. After some weeks of treatment, the patient, relieved of pain, insisted on going home; the most earnest, persuasive efforts remained unavailing. She was the widow of a wine-grower, and doubtless had attractions at home which were denied her whilst under-treatment.

In a short time she returned, complaining of great pain. A glance at Plate 9 will show that the cancer, which at the commencement of the treatment extended from but little below the level of the lobe of the ear down to below the jaw, had in seven weeks become quite limited. What one cannot see from the photo is that the tumour appeared to be detaching itself from the skin, much as the head of a mushroom on the shortest of stalks. Misinformed as to the circumstances of her stay at home, and believing that her pain was due to movements of the head dragging on the sessile attachment, I was ill-advised enough to remove the tumour by galvano-cautery, with the disastrous results seen in the Plate. A point worth noting is the diminution of the pigmented patches that are observable in the first photo. One pigmented wart on the left side of the face fell off spontaneously.

Case 23.

Cancer of the tip of the nose in a smoker. Treatment by ionization of Chromic Acid. Permanent success, so far as at present known.

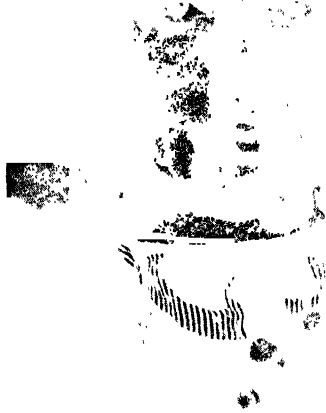
This patient presented a growth at the tip of the nose, for which he had been advised operation. The diagnosis of a vascular epithelial cancer appeared indisputable, and a surgical intervention must necessarily have been fairly extensive and very disfiguring.

This case was treated by ionization of chromic acid in such wise as to limit the application to the part affected, so far as that was appreciable by the eye. The patient treated the

Plate 10.

June, 1919.

July, 1919.



October, 1919.

June, 1920.

matter in a too "happy-go-lucky" fashion, absenting himself when his business or convenience dictated, a circumstance which was the occasion of a very interesting observation. After an interval of about three weeks, the patient returned with the indurated greenish mass considerably larger than when he was last seen, indicating apparently the fact that the ionized chromic acid had been progressively attacking the cellular extensions of the cancer, which are popularly described as its "roots."

Eventually, this small hard mass (about half-an-inch across) fell off, leaving a corresponding funnel-shaped excavation, which filled up and scarred over in such wise that, when I saw him casually some months later, there was absolutely nothing to attract attention to his nose.

Case 24.

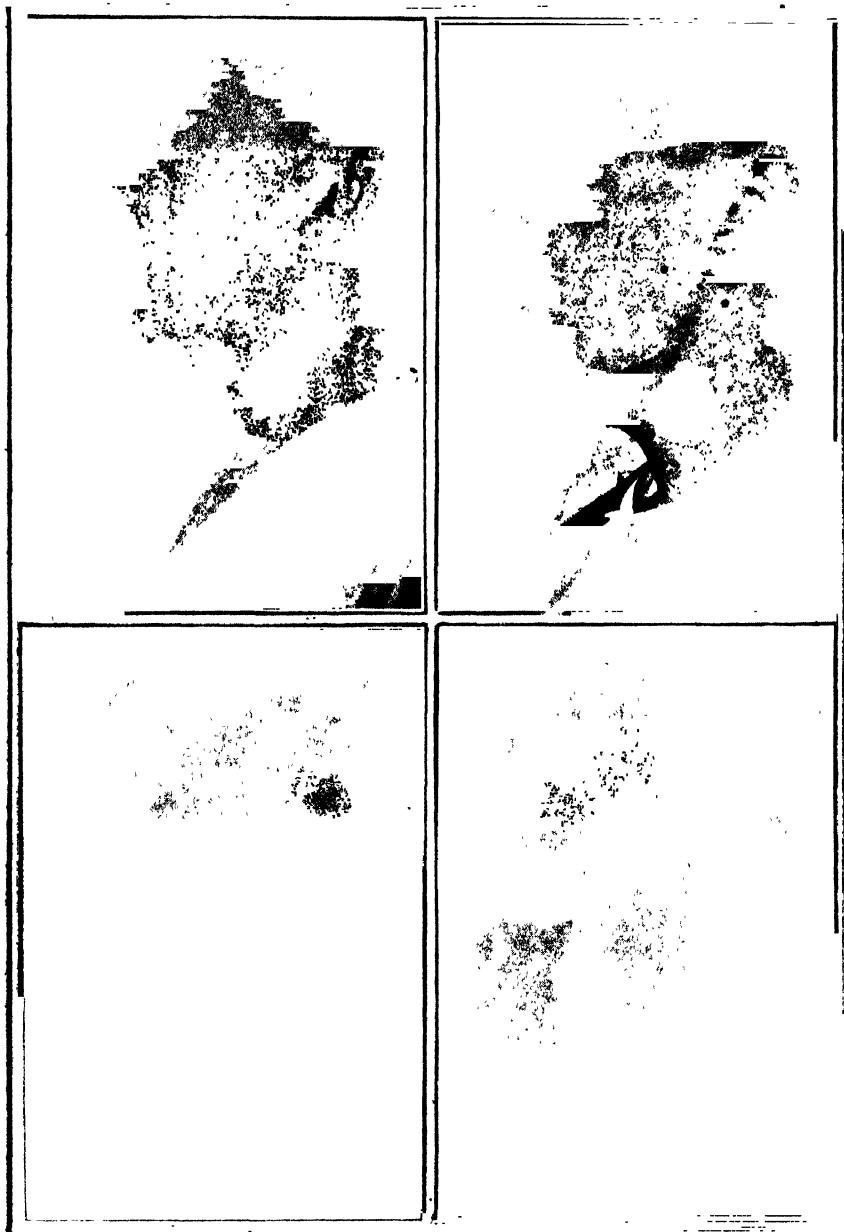
Cancer involving nasal passages, sequence of repeated operations on polypi, followed by cauterization with lunar caustic. Plate 10.

In the first place, I would remark that this is not the only case of cancer that has come under my observation which is to be traced to the use of lunar caustic. The result of treatment has been a happy one, as no one knows better than the poor patient herself, who wrote in the following terms:—

"With pleasure I inform you as to how I am getting on: thank God, well. Especially during the four weeks when you treated me, a remarkable betterment supervened, which I myself am best able to appreciate. A simple glance at the photos is sufficient testimony to the substantial improvement in so short a time. But my mental condition is also so much fresher since undergoing the treatment."

As a matter of fact, but for the intermediate photos one might reasonably doubt whether the fourth photo depicted the same patient as the first.

Plate 11.



CANCER OF THE CERVICAL GLANDS.

Cases 25-27.

Cases of cancer of the cervical glands. Plate 11.

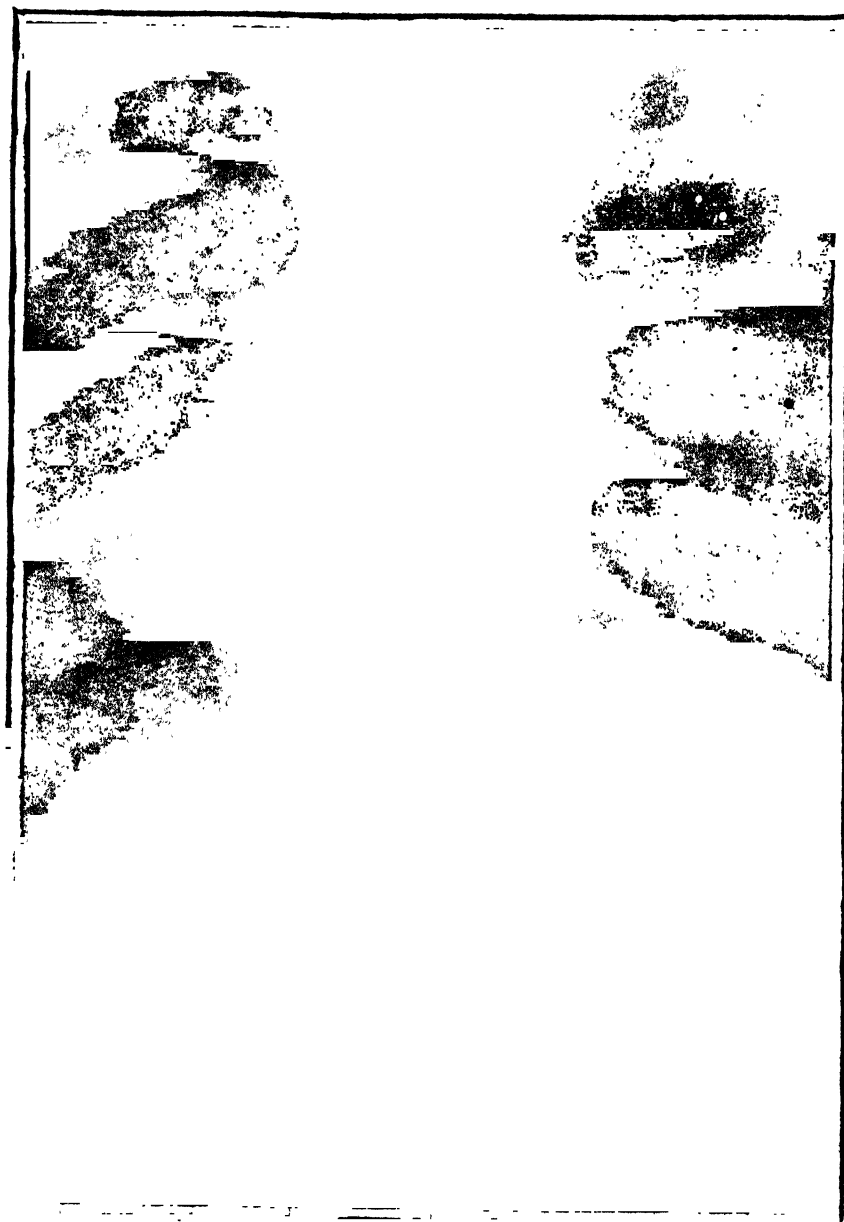
I have not any permanent success to register from the treatment of a malignant disease of the lymphatic glands of the neck, although I hope that the recent acquisition of new knowledge may have a beneficial repercussion in this domain, should I have the opportunity of treating such cases again.

The two cases depicted in Plate 11 were both benefited. The gentleman who had already been severely burnt by X-rays and radium—the scarring is clearly visible in the photograph—spoke most gratefully of the relief that he had experienced.

Another interesting case was that of a gentleman, the victim of veronal, who had previously been treated in a hospital without apparent success. Here the diminution of the tumour was so great that the family doctor doubted the diagnosis of malignancy. After the patient's death, therefore, he excised a part of the growth and sent it to Lausanne for the Report of the University Laboratories. From two members of the deceased's family I subsequently heard that the Report received confirmed the diagnosis of malignant tumour.

Plate 12.

CANCER OF THE ŒSOPHAGUS.



CANCER OF THE ŒSOPHAGUS.

Cases 28 and 29.

Extreme obstruction of the œsophagus from cancer; disappearance of obstruction under treatment. Fresh manifestation of cancer (in the liver) under avoidable causes. Plate 12.

This patient, Mr. F., coach-builder, came to me at a moment when he could not swallow even water. His weakness was such that he fell and cut his head. For a few weeks he was nourished per rectum. His condition at the end of his treatment is vouched for by a County Councillor of Canton Berne in the following letter, dated July, 1918:—

“I gladly testify that you cured Mr. F., coach-builder, of cancer with remarkable success. F. was discharged by the professors of Berne as incurable, and in a short time you restored him in such wise that he was able to swallow all forms of nourishment.”

At this stage, doubt was thrown on the diagnosis, in spite of the Roentgen photograph, of which Plate 12 is a much reduced copy. It was the usual professional argument—because the patient appeared cured, it could not be cancer. Whether this argument influenced the patient I do not know, but it is sure that I found myself unable to convince him of the importance of avoiding alcohol and tobacco, as unquestionably two important factors in the production of cancer of the œsophagus, opinion based on the fact that cancer of the œsophagus is more than three times as fatal in men as in women.

Working for a whole day in the cellar, putting up shelves, he caught a severe chill. Ashamed, perhaps, to return, after his refusal to submit to my counsel, he delayed so long that such treatment as was possible for me to give under the circumstances was ineffectual in curing the cancer of the liver from which he was suffering. There was no return of the obstruction in the œsophagus.

This case illustrates the sad paradox, that it is the death of patients from cancer that is the most convincing proof of the curability of cancer. If the patient remains cured, the disease was not cancer: if he subsequently dies, it was no cure! But the reader will have observed that I have throughout been dealing, not with the *cure* of cancer, but with its

curability. It is the patient who proves by his subsequent death, that the disease from which he had previously been apparently cured was cancer: he proves, moreover, by experimental logic that the cause of his trouble was that indicated—in the present case, abuse of alcohol and tobacco.

(2) I had another case of cancer of the œsophagus in Switzerland, in a patient in whom a gastric fistula had already been established; and through this fistula he took all his nourishment. This patient also recovered so far as to be able to take all nourishment by the mouth. Contrary to my wish, he allowed his fistula to close, so satisfied was he that he was cured. The following is a short extract from a letter from the patient's wife:—

“Father S. recognizes that your treatment has been very successful, for which he and the whole family desire to express their sincerest thanks.”

CANCER OF THE STOMACH.

Case 30.

The history of this patient is briefly sketched in a letter received from the wife. The case is recorded as evidence of the *curability* of cancer, not as a case of permanent cure. The patient's destiny is, so to speak—once he leaves the doctor—in his own hands, to make or mar.

The letter sets forth that after much treatment and several examinations by X-rays cancer of the stomach was diagnosed and operation recommended. The disease, however, was recognised on exploratory operation as too advanced for removal, and the patient was discharged as incurable, the wife being told that he had at the utmost but one or two months to live.

He was brought to see me at Mühlehorn, but his condition seemed so extreme and death so menacing, that at first I hesitated to treat him. As he was too ill, however, to return home without a few days' rest, one had to do one's best. The letter continues:—

“Under Dr. Shaw's treatment he has improved from day to day. After six weeks at Mühlehorn, he was already much better; pain had diminished and he could already take more solid food. After twelve weeks he was almost completely cured, and can once more eat everything, and feels himself stronger.”

CANCER OF THE INTESTINES.

Cases 31 to 34.

Four cases which I saw in Switzerland present points of interest.

(1) A patient in the prime of his days suffered from indigestion and obscure symptoms, which he disregarded. On his visit to a surgeon, he was told with all frankness that he was suffering from cancer too far advanced to admit of the question of operation. Could any condition be more worthy of sympathy? Condemned to a lingering death of suffering; helpless and hopeless; no effort made to combat the disease.

I don't remember even how I was introduced to the patient, who lived in the Jura, far from my residence at Neuchâtel. Of course, I was able to do but very little for him comparatively, but I did what I could, by very occasional visits, my efforts being loyally seconded by a Nursing Sister. My poor patient died; the clergyman wrote me a very grateful letter; and I had forgotten even the name of the patient when a letter came to hand of which the following is the material part:—

“Four years ago we had the great privilege of receiving for our father your devoted and intelligent treatment, which comforted him and diminished the suffering consequent on his disease. We have been much touched with your disinterestedness and now beg you to accept the accompanying remittance as a small token of our profound gratitude.”

The remittance seemed to me to represent a large sum, when sent by a family of working watch-makers.

(2) My second case of cancer of the intestines presents another and less gratifying aspect of the work of the pioneer, although the result, up to the last time I heard of the patient, was much more favourable.

This lady had been subjected in a hospital in the Jura to exploratory operation, and declared incurable as she was suffering from advanced cancer of the intestines. I treated her at Neuchâtel with very marked success, and on the occasion of periodic visits after this treatment, one was able to see that her improvement was progressive. She then ceased to come, and I myself moved into another part of Switzerland. Having failed to get into touch with her, I began to count this amongst the cases “curable,” but not cured, when I received from the lady a request for the injections, followed

by a letter from her doctor, of which the following is an excerpt:—

“ You treated a lady, Mme. P. G., of R., for intestinal cancer. She was much benefited, but feels less well since ceasing the treatment. She brings me a box of tubes for injection, begging me to proceed with their application. I commenced the day before yesterday, but should like to know what remedy is employed and beg you to give me the necessary explanations.”

Having acceded to this doctor's request and given him a sketch of the treatment adopted in this patient's case, I have heard nothing further.

(3) My third case of cancer of the intestines presents points of interest, points of the most painful interest. The lady was one well known in her canton, and there was universal sympathy when it became known, as it did, that she had been condemned to die from inoperable cancer of the intestines, even though her general appearance did not seem to justify such dark forebodings.

After a few weeks' treatment she was so much better that her case became a subject of discussion at a cantonal Church Congress, that is to say, it was debated from one end of the canton to the other.

The sister about this time wrote me a letter from which the following is an interesting extract and one that merits attention:—

“ Naturally I recounted to the doctor about the ‘cure’ in Mühlehorn. He recognized and paid homage to the benefit of your treatment, but finally concluded that in such *severe cases no means can be permanently successful, other wise operative treatment must be unconditionally superseded.*” (The italics are mine.)

(4) My fourth case of cancer of the intestines is also of interest, as displaying the difficulties under which the non-operative treatment of cancer languishes. This patient came to me when suffering from acute intestinal obstruction and severe pain. His case had been diagnosed by the doctors whom he had seen as cancer of the head of the colon, but the real nature of his malady had been kept from the patient himself.

The improvement under treatment was so remarkable that the daughter wrote me, evidently desiring to throw doubt on the diagnosis made by the surgeons, diagnosis which appeared to me correct. At the end of three weeks, the patient refused

to continue treatment. "Ich habe Erfolg gehabt," he observed, which may be translated, "I'm perfectly satisfied with my present condition." He had, in fact, lost all pain, having regular action of his bowels. Nothing I could say would persuade him to resume treatment. He went home, never to return!

After a period of betterment, the previous symptoms re-established themselves, and the poor patient perished miserably. This fact, I presume, would be advanced as proof that cancer is incurable by any other method than operation.

CANCER OF THE RECTUM.

Case 35.

Cancer high up in the rectum, declared inoperable and hopeless.

* What logical mind can doubt, after reading the extract printed below from a letter received from this patient, that she might have been cured but for circumstances entirely within her own control? No incident in my professional life has struck me as more pathetic than to see over the bed-head of this patient the directions which I had written out for her guidance, directions which she had almost entirely, one and all, contravened. The long walks of which she writes were so long as to be fit only for a person in robust health. From time to time she had to sit down on the frozen earth to rest, she a patient suffering from cancer of the rectum. She was, in my judgment, well on the road towards cure when she penned the following note:—

"Attacked by cancer of the rectum, I came to consult Dr. Shaw, who sent me to Vaumarcus to the Sanatorium of Dr. Liengme, and commenced treatment 19th October, 1915. I was suffering very much and very feeble at that time. After three months' treatment I have regained my strength and can take long walks: the symptoms of my malady have greatly diminished. This I attribute to all Dr. Shaw's care and also to the change in my surroundings."

Plate 13.

4.i.1917.

14.ii.1917.



1.iv.1917.

31.viii.1917.

SARCOMA.

Cases 36 and 37.

(1) *The patient, the subject of Plate 13, a lad of 17, was operated on for sarcoma of the jaw by a celebrated surgeon. As the mischief re-asserted itself almost immediately after the operation, radium was tried, but unavailingly. The swelling grew visibly from day to day. Another operation was declared necessary, and as this was declined, the patient was brought to me early in 1917.*

From Plate 13 it will be seen that in spite of my treatment the swelling continued to progress, but with less rapidity, it was said, until about the middle of February, from which time there was steady and uninterrupted diminution, until he left my care, apparently well.

I have been unable to obtain direct news of the after-history of this patient. From others I have heard that he was "working like a nigger" at his father's business. He himself had written me in June, 1917, as follows:—

"We are now in the sixth month of my treatment and I note that the tumour has greatly diminished, especially these last few days, and that I have reason to be very satisfied with the treatment."

(2) Regarding my second case of sarcoma (Plate 14, A.B.), the patient's history up to the time she left my care is set forth in the letter of the patient's sister from which the following extract is taken:—

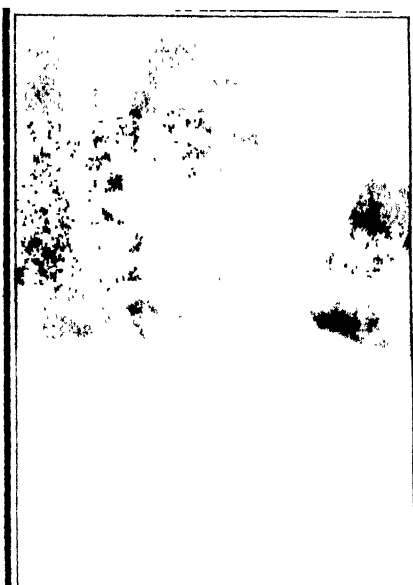
"My sister, who was attacked with a cancerous tumour of the upper jaw, accompanied by suppuration and offensive odour from the nose, was treated by the professors at Berne. After five weeks of treatment, these gentlemen considered the case hopeless, the tumour being too advanced, and the eye and brain already attacked.

"My sister then had the happiness to be treated by Dr. Shaw. After one month of his treatment the tumour had considerably diminished, the eye was cleared and the bad odour from the nose completely disappeared. She is therefore on the high road to cure."

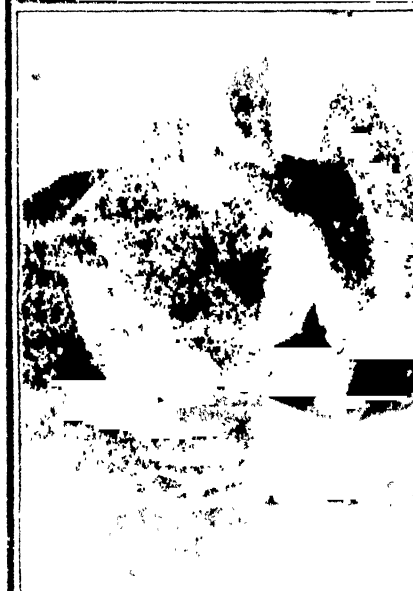
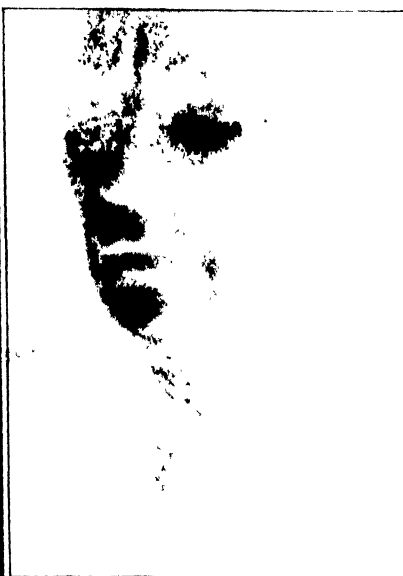
This case, unfortunately, has to be added to the list of patients "*curable*," but not cured. What can one do in a single month, when the patient must thereafter return to the most deplorable domestic conditions?

Plate 14.

A



B



D

Cases 38 and 39.

The two remaining photos in Plate 14 each tells its own sad tale. The first is that of a lady who came to me at Neuchâtel suffering from the large tumour undergoing cystic degeneration which one sees in the photo. She was the victim of severe valvular disease of the heart which had precluded operative intervention, although she suffered agonies of pain, so terrible as to make her contemplate suicide.

Under treatment she lost all pain and, in consequence, improved so much in her general health that she was persuaded to submit to operation rather than to fulfil the proposed programme of returning in the spring for further treatment.

The operation was most successful, but its results most disastrous. The patient, so far as I understand, never thereafter left the house. The husband finished up his letter detailing his wife's sufferings with the following sentence, which seems to contain a world of information:—"My wife thinks always with gratitude of you, and sends you her hearty greetings."

I was very much criticised for writing of the "furor operativus," in my book, "Medical Priestcraft," but how is it possible to speak of such a case as the fourth on Plate 14, in other terms than that of "operation-madness"? The patient, mother of six young children, was operated for her left breast, the probable cause of her cancer being the septic poisoning arising from the terrible condition of her teeth and gums, for which nothing whatever was done.

The photo was taken the first time the patient was well enough to come to see me: it represents, therefore, a certain degree of betterment. Although the whole left side was permeated with cancerous nodules, the patient was advised to undergo a further operation for the right breast, the affection of which is plainly revealed by the photo.

If it is thought that I show myself too naïve in believing the word of the patient and her husband, it must be remembered that my old patient, aged over eighty years, was recommended an operation on her left breast, although there were extensive masses of recurrent cancer in the side already operated. (Case 11, page 150.)

CONCLUSION.

An appeal on behalf of funds for the Cancer Hospital depicts a Knight-Templar on whose breast is that most sacred of all emblems, the Cross. He poses as representing the Crusade *against* Cancer. Until the facts and figures presented in the foregoing essay are refuted or explained, it is but natural that I should consider him as fighting *for* cancer. In other words, I submit that every pound subscribed for cancer research (as the term is generally understood), and every donation given in order to increase operative facilities in this domain, must inevitably postpone the day when humanity shall be liberated from the thralldom of this terrible disease.

The reader may judge how far I have succeeded in eliminating from the preceding essay every word of personal grievance, but it is necessary that the profession should understand somewhat of the difficulties encountered in endeavouring to obtain consideration for new views.

In 1910 I left England after having arrived at the conclusion that the fight here was a hopeless one, because the noblest tradition of our race, "fair play," was being sacrificed on the altar of the "sacred stronghold of research;" I went to Switzerland hoping that in a democratic republic the *public* interest would dominate that of party. Let me briefly recount two incidents :

(i) Having published the pamphlet in 1915, "*Le Cancer en Suisse, la logique des faits*" which "converted" the distinguished Director of the Bureau fédéral de statistique, I took it to the *Journal de Genève*, after having sent it to all the medical journals of which I could learn anything. When the Editor said that he would submit it to the Journal's experts, I replied : "Mr. Editor ! Geneva is the city of Calvin. Calvin comes to you to-day, and asks you to review an eight-page pamphlet. You reply that you will refer it to the Congregation of the Index. Is this fair, especially in reference to a question of such vital interest to Switzerland, which holds the world's record for its high cancer mortality?" The editor laughed and said he would see what could be done. What was done was to publish only the answer of my opponents, who set up a "man of straw" to knock it over. I can conceive no more convincing condemnation of Swiss medical mentality than a reasoned comparison of my pamphlet with the answer of the "*Société suisse pour la lutte contre le cancer*," a

Society the founder of which, the late Dr. Schmid, had told me (as presumably I can still confirm by correspondence) that my views on cancer and his own were practically identical.

(ii) In the same month (Sept., 1915) there was a meeting of the Swiss medical profession at Neuchâtel. Although I failed to gain permission to address this meeting at which something like one hundred members were expected to be present, I was allowed to place at their disposal my recently published pamphlet; and in order to provide against all eventualities, I supplied 250 copies. The attendance exceeded all precedent, there being 400 members present. Nevertheless, there were not fifty who accepted the pamphlet placed gratuitously at their disposal! Is it possible to avoid the conclusion that the majority preferred a quiet conscience?

And Englishmen appear no more anxious to hear both sides of this important question! I asked permission of the Senate of the University of London to lecture on cancer to the graduates, offering to submit for control the figures on which my argument would be based, one month beforehand. My request was refused.

And now the University of London Press declines the publication of my book. Under date, 5th March, 1923, the Editor writes: "We have to thank you for your kindness in submitting to us the proof copy of your volume on Cancer. We have considered the matter and regret to say that we are not disposed to accept your offer of publication." Yet my career at the University of London (of which I am a Doctor of Medicine) was not such as to cause me any shame as I read the entry against my name (curtailed though it may be) in Churchill's Medical Directory.

A celebrated firm of medical publishers with whom I had two personal interviews wrote under date 23rd February, 1923: "Since your call here on Wednesday afternoon we have given full consideration to the question of publishing your new book on Cancer. We regret to say that we do not see our way to publish the same. We return to you the proofs, and we thank you for giving us the opportunity of being your publishers." Cannot the reader imagine this firm saying: "You may yet come out top, but, *in the meanwhile*, if we incur the ill-will of the profession by publishing your book, who is to compensate us for our financial loss?"

It was the Editor of a leading medical journal who suggested to me that I should write a book, the same editor, in fact, who is referred to in the preface as having since refused to publish a statistical study, alleging that the figures were sure to be challenged.

In 1907, even the advertisement of my books was refused in two medical journals, one of which has since suggested that the problems of cancer may perhaps be solved, not by cancer research, but on lines such as were indicated in my pamphlet, "Cancer, a Working Theory for its Prevention and Cure." Quite recently I have heard it contended that the medical profession is not to blame, because ignorant of facts which one might have thought it, not only within its competence, but within its duty to have mastered. Since the publication of the Cancer number of the *British Medical Journal* of December 5th, 1922, such ignorance in the domain of cancer would appear to me unpardonable, because therein one has the means of comparing the value of statistical studies with experimental research, which, so far as I know, has got no further after twenty years of organised effort than the *production of cancer*.

Conscious that unhappy experiences might betray me into expressions irritating to my profession, I submitted the early proofs of my opusculum to two friends, begging them to eliminate everything that might prejudice its impartial treatment and judicial consideration. Can the reader from this standpoint find anything in the preface or in the first 175 pages of text to justify its refusal by medical publishers?

It is quite clear that something must be done! Formerly I had the privilege of knowing a young English officer who was subsequently taken prisoner in a remote part of China on a charge of *espionage*. For two days and nights he was tortured before being decapitated. When his sufferings caused him to faint, he was revived with cordials, in order that he might suffer the more! But this question of cancer interests one million victims, men and women, condemned to suffer on an average for *two years*, because the medical authorities refuse to consider the logic of facts, because the public are hypnotised by such high-sounding terms as the "Crusade against Cancer," because there is no one of influence strong enough to say, "The Cancer SCANDAL must cease!"

The supreme question of cancer to-day is its curability without operation, and that can be submitted

to demonstration under scientific conditions: there is certainly no lack of the necessary clinical material. Is it possible to avoid the conviction that the *honour* of the medical profession necessitates such an experiment on an adequate scale?

The urgency of the question may be appreciated in view of the recent determination of the Royal Society of Medicine (13th March, 1923) to intensify the propaganda which, for some seventeen years, has borne—in my judgment—such disastrous results. Not only is the organisation of the British Red Cross Society and the St. John Ambulance to be brought into play, but also that of the Ministry of Health. When the venerable Director of the Swiss Statistical Office expressed himself as convinced by my figures, he said that whatever the surgeons might answer, my reply was simple: "There are the figures!" And that is still my plea to-day! Until my figures are either refuted or explained, how is it possible for me logically to regard the vote of the Royal Society of Medicine other than as a *crime* against humanity? Am I to be left alone, "a voice crying in the wilderness?"

"Salus populi suprema lex esto!"

(1) "ECONOMIC" APPENDIX.

The figures on the two following pages amply justify my contention as to the disturbing influence of the war having introduced new problems, seeing that the returns are missing for the years 1915 to 1918, inclusive, in respect of all the items on page 181, and of certain items, as indicated, on page 180. It will be noted, however, that the calculations are based on the average *annual* returns in all cases.

These economic returns are subject to the very serious logical fallacy, "*Post hoc, ergo propter hoc*," of mistaking sequence for consequence. For example, the consumption of alcohol has been decreasing, although mortality from cancer has been on the increase. Nevertheless, it is absolutely certain that the abuse of alcohol and especially of beer is an important cause of cancer. But when all is said, it should be obvious that such figures constitute an important factor in the data necessary to arrive at the truth. The very important advance in the consumption of nitrogenous foods (meat, etc.) and especially of cocoa, tea and tobacco appears to me of great interest.

It has often struck me how very remarkable is the illumination which the study of cancer may throw on the cancers in the body-politic. The figures on the present two pages illustrate my meaning and are well worthy of the thoughtful consideration of every British patriot.

In the first place, the phenomenal fall in the United Kingdom of the Birth-rate, in spite of a rise in the Mar-

Statistical Abstracts for the United Kingdom. Average Annual amounts of certain items indicative of national activities, those of 1891-95 being taken as 100.

	1896-1900	1901-05	1906-10	1911-15	1916-20
Imports (total) (a) Value per head of Population	108	118	171	145	353
Exports (total) (a) Value per head of Population	196	119	153	176	388
London Bankers Clearing House. Amounts cleared	119	153	185	171	185
Number of letters per head of the Population (a)	113	130	138	155	168
Telegraph: Length of lines	123	145	168	216	280
Income Tax: Produce for each penny...	101	117	125	137	178
Savings Banks, Post Office. Total Number of Accounts	132	163	191	229	280
Savings Banks, Trustee. Amount due at end of year	115	121	121	123	145
Industrial and Provident Societies, Number of Members	131	167	203	247	338
Ordinary Life Companies, Total Premiums	123	142	165	185	226
Bankruptcies (England and Wales) ...	92	96	91	69	24
Birth-rate, U.K.	97	94	88	80	69
Marriage-rate, U.K.	107	104	103	110	113
Death-rate, U.K.	96	87	81	79	79

riage-rate, points to conditions which must inevitably result in race-suicide. A degenerate race will be replaced by one more virile.

One hears of unemployment being as serious as the *Black Death*. Everyone can judge of the danger of the situation from the figures published regularly in the news-

papers. Yet the earning power of each penny of the income tax has increased and the value per head of the population of both imports and exports. What does this mean? It means, I presume, that the charges made are such that, sooner or later, the trade of this country must be killed in competition with countries the valuta of which

Statistical Abstracts for the United Kingdom. Average Annual Consumption per head of the Population of certain articles of food, that of 1891-95 being taken as 100.

	1896-1900	1901-05	1906-10	1911-14	1919-20
Corn, Wheat	92	115	123	128	109
Wheat-meal, Flour	103	85	56	46	64
Corn, Maize	161	128	112	108	64
Potatoes	166	194	149	149	83
Butter	130	154	155	144	58
Margarine	75	75	71	96	48
Cheese	110	109	99	92	96
Eggs	124	149	139	142	46
Mutton	148	156	179	193	188
Beef	163	167	178	138	124
Pork	166	159	118	119	69
Bacon and Hams	140	132	114	103	32
Currants and Raisins	95	93	98	97	117
Sugar (raw and refined)	102	102	105	113	76
Tea	108	111	115	121	153
Coffee	97	97	92	86	101
Cocoa (raw)	135	182	191	211	418
Cocoa and Chocolate manufactured	250	350	417	817	933
Wine	108	86	73	68	100
Beer, (British)	107	99	91	91	63
Portable Spirits (British and Foreign)	105	99	80	68	47
Tobacco	121	118	123	128	187

enables them to undersell our own traders. Competition under such conditions cannot be successful. And the annual cost of Government for the period under consideration has increased in unheard of, incredible proportions. In face of such a cancer eating into the backbone of our Nation, where is the man strong enough and honest enough to deal with such a situation?

(2) APPENDIX ON SOAP.

The "research" work published in the *British Medical Journal* in its number of 5th December, 1922, was accompanied by a leading article in which the conclusion was drawn that more attention would in future be given—as a consequence of these experiments on mice—to *irritation*, as a cause of cancer. Not but what it had been long known that chronic irritation is a cause of cancer, not but what it had also been recognised that amongst such causes of irritation an acknowledged place had for many years been held by soot, by paraffin, by tar, and by arsenic, respectively.

On 21st March, 1923, a distinguished surgeon, an authority on cancer of the skin in its surgical aspects, delivered at the Institute of Hygiene a lecture which found wide reproduction in the public press. From the article in the *Daily News* the following is cited:—

"Speaking at the Institute of Hygiene yesterday, . . . said that in order to prevent cancer it was essential that every person should do everything that was possible to do away with irritation, and he particularly deprecated the use of soap, face powders, colouring matter, creams, bath salts, and all scents."

"Powders and soaps were especially dangerous, as they were apt to stick and make their way into the glands of the skin and then set up trouble which might ultimately become cancer."

I do not think that one could desire a more striking example of the fallacious teaching of vivisection in the domain of cancer, seeing that statistics prove:—

(1) That there was in England and Wales a very great diminution in the comparative mortality from cancer of the skin in the interval between 1868 and 1898, a period during which the use of soap was becoming much more popular. Similar facts hold good for Switzerland.

(2) That the mortality from cancer in those who work in soap and tallow is very much less than that of "all occupied males." That whilst in the latter group cancer is rapidly increasing, in the former it is diminishing.

(3) Men who certainly are less careful of their face and use less soap suffer half-as-much-again from cancer of the face as women, who, on the contrary, suffer half-as-much-again from cancer of the scalp as men, on account of the greater difficulty they experience in keeping the scalp clean, on account of their long hair.

(4) Of men dying from cancer, those who succumb in work-house infirmaries suffer nearly twice as much from cancer of the face as their more favoured fellows who die in their own homes. Common sense suggests that the latter have given more attention to considerations of the toilet than the former.

On the other hand, one knows that both in England and Wales and in Switzerland there has been propaganda during the present century in favour of the operation of facial blemishes: that coincident with that propaganda the mortality from skin cancer has risen: that clinical experience has shown that the operation of a facial blemish may be followed by death from disseminated cancer.

The name of the surgeon above referred to is omitted because he regards the newspaper reports as misrepresenting his *real* meaning. With the more detailed information with which he has favoured me, I am more than ever convinced that absolutely superfluous vivisectional experiments had warped the judgment and distorted the perspective of one of the most brilliant and respected of modern surgeons, for cancer research is, in my judgment, "science falsely so-called."

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